Report of the
Chief Inspector of Mines in India
1905 to 1907

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BOMBAY BRANCH
OF THE
ROYAL ASIATIC SOCIETY.
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REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA,

Under the Indian Mines Act (VIII of 1901),

FOR THE

YEAR ENDING 31ST DECEMBER

1905.

134444

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BY

W. H. PICKERING,

Chief Inspector of Mines in India.

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FROM

W. H. PICKERING, ESQ.,
Chief Inspector of Mines in India,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF COMMERCE AND INDUSTRY.

Dated Calcutta, *1906.*

SIR,

I HAVE the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1905 :—

Introduction.

The Indian Mines Act, 1901, extends to the whole of British India, and regulates all mineral workings in that area which are either true mines worked underground, or open pits, quarries or excavations more than 20 feet deep, or any part of which extends beneath the superjacent ground.

To prevent misconception, it seems necessary to explain that this is a report relating entirely to the administration of the Indian Mines Act, 1901, and is not a complete statistical review of Indian mining and analogous industries :—

No official publication embodying such statistics is at present issued for India, but a Review of the Mineral Production of India was published in 1905, under the editorship of the Director of the Geological Survey, for the six years ending 31st December 1903. In future this will appear as a Quinquennial Review. Some statistics relating to mines and minerals appear in the "Financial and Commercial Statistics of British India," published annually by the Director-General of Commercial Intelligence, and statistics of output of minerals beginning with the year 1904 are also given in the "Records of the Geological Survey of India," and appear about 12 months after the year to which they relate. Figures for Mysore, where most of the Indian gold is raised, are given in the Report of the Chief Inspector of that Native State, and mineral statistics may also be found in the administrative reports of the various Presidencies, Provinces, and States of India. The collection of mineral statistics is at present a matter of considerable difficulty in India, but a procedure has now been sanctioned which will, it is believed, make the statistics of the mines regulated by the Indian Mines Act, 1901, complete and trustworthy in future years.

In some of the Mines Department reports previous to the year 1904 a few statistical tables relating to mines in Native States, and to workings not regulated by the Act, were given, but as it is not possible to obtain accurate figures in time for the date prescribed for the issue of this report, they have been again omitted.

The scheme for the 1904 report has been followed. The tables of figures in the body of the report are condensed summaries, and the detailed statistics will be found in the appendices.

The report is divided into five sections, *viz.* :—

Section I.—Persons employed;
„ II.—Output of mineral;
„ III.—Accidents;
„ IV.—Prosecutions, discipline, and [illegible];
„ V.—General remarks;

followed by five appendices, *viz.*, Appendix I.—List of fatal accidents; Appendix II.—Detailed statistical information relating to mines regulated by the Indian Mines Act, 1901; Appendix III.—Miscellaneous information; Appendix IV.—A model code of Special Rules; Appendix V.—A list of coal mines, owners, and managers.

Section I.—Persons employed.

During the year 1905 the average number of persons working daily in and about mines regulated by the Indian Mines Act, was 109,587, of whom 69,951 worked underground and 39,636 on the surface. 70,088 of the persons working were adult males, 33,643 adult females and 5,856 children under 12 years of age. Compared with the preceding year an increase of two per cent. or of 2,205 workers is shown. The principal increases are mica miners 2,069, and manganese miners 1,007; but there was a notable decrease of 1,506 in the number of workers in and about coal-mines.

No less than 80,496 of the persons working were employed at coal mines, and of these 74,071 or 92 per cent. worked in Bengal.

Coal is of the greatest importance to the industrial development of India. The reduction in the number of workers would seem, at first sight, to indicate a decline of the industry; but reference to table 2, page 5, will show that, in spite of this reduction, there has been an increase in the output of coal, and it thus appears that the Indian miner is becoming more efficient in his work. This is a significant and encouraging fact. The use of machinery and improvements in mining methods of a country may increase the output per man, but the capacity of the human factor remains of the first importance. By dividing the number of tons raised by the number of persons employed below ground figures are obtained which allow comparative tables of the miner's efficiency to be made. Such tables must be used with reservation as it is not possible to take into consideration the time the miners spend at their work, the hardness of the coal, local mining difficulties, and other disturbing factors. Still they are valuable for rough comparison. Such a table is given on page 30, Appendix II, table No. 5A, and judging from this the Indian miner is at the bottom of the class and only does 35 per cent. of the work of the English miner. It must be remembered that many of the Indian miners do not give the whole of their time to mining, but follow other occupations at intervals, and for this reason are slow in acquiring mining skill. It is evident, however, that the comparatively high wages paid in the coalfields, and the steady increase of the coal-mining industry will, before long, have the effect of establishing a permanent mining population in the colliery districts, and it may be useful to enquire what are the possibilities of the Indian miners becoming reasonably efficient as compared with the miners of other countries. The Indian miner has neither the bone and muscle, nor the persistent energy of the Englishman; but many of the Indians are of good physique, and are hard and willing workers. Handling a miner's tools is more a matter of skill than is generally supposed, and at present the Indian coal-miner is a raw recruit, and clumsy with his weapons; but when doing work to which he and his forefathers have been accustomed, such as loading or carrying material, he is capable of showing very good results. The following facts were noted when visiting a Jharia coal mine. The miner and his wife commonly work together, the man cutting the coal, and the woman carrying it to the surface in baskets. The man will only cut 13 cwts. of coal for the day's work—a very poor result—but the woman will carry the coal to the surface up a roadway 750 feet long with an inclination of 1 in 10. She will thus walk over five miles, and for half the distance carry a load of 80 lbs., and will have raised 13 cwts. to a height of 75 feet. This is a remarkably good day's work for a woman.

From information gathered in the Giridih coalfield it would seem that for the very hard work of driving winning-headings in the coal one English miner would be equal to at least five Indians. In some of the lighter coal-cutting two Indians would do as much work as one Englishman.

Hitherto, practically all the miners working in the Bengal coal-fields have been Bengalees, but Pathan labour has been introduced into a Jharia colliery, and about 140 of these men are now employed. In appearance they are much stronger than the local men, and, from information kindly given by the manager, it appears that in a given time one Pathan will do more work than two local miners.

The Bengal coal-miners are usually cheerful when underground, and appear to be satisfied with the conditions of employment.

No census has, so far, been taken of the different races working in Indian mines, but the Local Governments and the Deputy Commissioners sometimes give interesting information about labour in their reports upon the working of the Indian Mines Act. The following notes upon the work-people employed at the Burma Ruby mines are compiled from the reports of the Government of Burma, and of the Deputy Commissioner of the Ruby Mines District. The labourers employed are chiefly Maingthas, a Shan-Chinese race. They come from the Shan States and from China without their families, and usually return to their homes when they have earned a sufficient sum. It is now reported, however, that they are becoming disposed to bring their wives and families, and settle in the neighbourhood of the mines. They are preferred by the Ruby Mines Company to coolies of other nationalities on account of their orderly and industrious habits. Unskilled labour at the mines is able to command wages at the rate of R1 a day. This is greatly in excess of the rates obtainable by similar labour in other parts of Burma. The Ruby mining district has the reputation of being malarious, but during the year 1905 the general health of the work-people was good, and they appeared to be prosperous.

TABLE No. 1.

The following table is a summary of the average number of persons working daily in and about mines regulated by the Indian Mines Act, during the year 1905 :—

Province.	Average number of persons working daily in and about mines getting—						
	Coal.	Mica.	Manganese.	Limestone.	Salt.	Other minerals.	Total persons.
Bengal . . .	74,071	6,122	...	...	...	626	80,819
Central Provinces .	1,763	...	2,566	2,093	...	126	6,548
Madras . . .	...	9,199	2,508	...	...	156	11,863
Assam . . .	1,549	...	...	...	...	...	1,549
Baluchistan . .	1,082	...	...	...	...	...	1,082
Punjab . . .	2,031	...	...	45	1,196	231	3,503
Burma . . .	...	...	...	..	...	2,878	2,878
Bombay . . .	...	...	48	...	...	1,037	1,085
Rajputana . . .	...	260	...	...	...	...	260
Total for 1905 . .	80,496	15,581	5,122	2,138	1,196	5,054	109,587
Total for preceding year	82,002	13,512	4,115	1,962	1,329	4,462	107,382
Difference .	—1,506	+2,069	+1,007	+176	—133	+592	+2,205

For full details, reference should be made to table No. 1 in Appendix II.

Section. II.—Output of Mineral.

A glance at the table given below will show that there has again been a substantial increase in the output of nearly every important mineral raised from mines regulated by the Indian Mines Act.

COAL.

Compared with the preceding year an increase in the output of coal from mines in British India is shown. The output amounted to 7,762,779 tons and of this 7,234,103 tons, or 93 per cent., were raised in Bengal. There are important coal mines in the Native States of Central India and Hyderabad which produce annually an output of over 600,000 tons. If this quantity is added to the above output, India easily maintains her position at the head of the coal-producing dependencies of the British Empire.

The favourable geographical position of the Bengal coalfields, the excellent quality of the coal, and the easy mining conditions, give Bengal a great advantage over other Provinces, and the development of the coal industry has been truly remarkable. In 1898 the output was only 3,622,090 tons. Of this, Giridih produced 653,047 tons, Jharia 749,988 tons, and Raniganj 2,216,441 tons. The figures for 1905 are:—Giridih 829,271 tons, Jharia 3,070,588 tons, Raniganj 3,262,536 tons, other Bengal coalfields 71,708 tons; giving a total output for the Province of 7,234,103 tons. The Jharia coalfield has developed the most rapidly, and in the near future it may be expected to produce more coal than any other coalfield. This coalfield is well served by the East Indian, and the Bengal-Nagpur Railways, and when the main line connection between Dhanbaid and Gya, now under construction, is finished, it will be in a much more favourable position to develop the inland trade. At present, there is no deep mining in Jharia, most of the coal being raised from inclines driven into the outcrops of the seams.

Coke to the amount of 258,989 tons was carried by the Indian railways during the year 1905, or an increase of 30,775 tons compared with the preceding year. The coke was produced in the crude ovens described in last year's report, and on an average not more than 40 tons of hard coke would be produced from 100 tons of coal. Sanction has been given for the installation of a battery of modern retort-ovens with bye-product recovery plant at the Giridih collieries of the East Indian Railway Company. The experiment will be followed with the greatest interest.

GOLD.

Gold-mining is a very important industry in India, but at present nearly all the gold is obtained from the Kolar mines in Mysore, and the statistics will be found in the report of the Chief Inspector of Mines of that Native State.

Developments are now in progress on a very large scale in the Dharwar district, south of Bombay, on a reef similar to that from which the Kolar gold is obtained. The Dharwar gold-reefs have been extensively worked in former times, of which there are no records, but numerous and extensive old workings have been discovered, some reaching a depth of 200 feet, and it is clear that large quantities of gold ore were formerly raised. The present workings are principally of the nature of winnings and explorations, but enough is known to allow the mines to be systematically designed for large outputs. A little ore was raised and treated during the year, and 93 ounces of gold produced.

MANGANESE ORE.

As anticipated, the fall in the output of manganese ore recorded in 1904 was only a temporary check. The output for 1905 was 204,194 tons, or an increase of 65,461 tons, and table No. 4, Appendix II, shows that this is by far the greatest output recorded. There are large manganese mines in the Native States of Central India, and the output from important mines less than 20 feet deep, and therefore not regulated by the Indian Mines Act, is not returned. Practically all the manganese ore raised is exported, and the Indian export during the year 1905 was 281,734 tons. This figure may be taken to represent the total output.

MICA.

Mica has commanded a high price during the year. There has been a brisk demand and, therefore, a large increase in the output was expected. The output was 25,548 cwts., and exceeded that of any previous year. Compared with the year 1904 an increase of 4,228 cwts. is shown. This was partly due to the fact that the mica mines of Ajmer-Merwara are now deep enough to fall within the scope of the Act, and the output of 2,740 cwts. from these mines is included. The Nellore mines, Madras, were very actively worked during the year, and the output increased from 4,760 cwts., in 1904, to 8,220 cwts. in 1905. The Hazaribagh mines, Bengal, decreased their output by 1,660 cwts.

The principal commercial applications of mica are for electrical apparatus, protective spectacles for stone and metal workers, lamp chimneys, stove and furnace windows, ornamental paints and papers, and as a lubricant. Mica-waste is also used for heat-retaining coverings for boilers and steam pipes, and for heat-proof layers on house tops. The utilisation of scrap-mica and mica-waste in India has perhaps not received sufficient attention, and it is satisfactory to learn that, in the Nellore district, the industry of using the mica-scrap for making micanite has been revived. This industry commenced in 1898, but, after flourishing for several years, languished, owing to the failure of the European demand. It revived early in the year 1905, and it is computed that some 5,000 persons, mostly women and children, are now employed in recovering scrap-mica from the waste-heaps, and splitting the films. One European firm has established a film-splitting shed in the district, and buys the mica-waste from the mine owners. Some of the mine owners employ persons to sort and split the waste mica at the mines, and they export the films on their own account.

COPPER.

Copper makes its appearance for the first time in the list of minerals raised from mines classed under the Indian Mines Act. Only 40 cwts. were raised, but a serious effort is being made to develop copper mining on a considerable scale. There is a great demand for copper in India. During the year 1904-1905 the amount of copper and copper articles imported into India was 441,152 cwts., valued at ₹21,793,530.

TABLE No. 2.

QUANTITY OF MINERAL RAISED.

The following short summary shows the output of the principal minerals from mines regulated by the Indian Mines Act for the year 1905 :—

PROVINCE.	Coal.	Manganese Ore.	Mica.	Limestone.	Salt.
	Statute Tons.	Statute Tons.	Statute Cwts.	Statute Tons.	Statute Tons.
Bengal	7,234,103	...	14,541	...	...
Central Provinces	147,264	141,659	...	92,170	...
Madras	...	62,495	8,267	...	...
Assam	277,065	...	...	...	...
Baluchistan	41,725	...	...	...	...
Punjab	62,622	...	...	1,000	94,078
Rajputana	...	...	2,740	...	...
Bombay	...	40	...	...	...
Total in 1905	7,762,779	204,194	25,548	93,170	94,078
Total in preceding year	7,561,338	138,733	21,320	50,847	107,413
Difference	+201,441	+65,461	+4,228	+42,323	—13,335

The other minerals for which the returns for output have been received are:—Gems, Slate, Gold, Iron Ore, Magnesite, Graphite, Fullers' Earth, Copper Jade, and Fire-clay.

Section III.—Accidents.

GENERAL REMARKS.

During the year 1905, at mines regulated by the Indian Mines Act, 1901, there were 65 accidents involving the loss of 71 lives. Compared with the average for the four years during which the Act has been in operation, this is an increase of 1 in the number of accidents, and a decrease of 8 in the number of deaths.

Of the persons killed 58 were males and 13 females. In addition to these deaths, fatal accidents to ten persons who were not employed at the mines, or who met with their deaths in abandoned mines were reported. A list of these appears in Appendix I, and reasons are given for their exclusion from the statistical tables.

The following tables summarise the principal causes of accident, and show the mineral workings in which the persons were killed during the year. For detailed statistical information reference must be made to the list of fatal accidents in Appendix, I and to tables Nos. 2, 5, 6 and 7 in Appendix II.

TABLE No. 3.

ACCIDENTS, 1905.

Classified as to cause.

Cause of Accidents.	Number of accidents.	Percentages.	Number of deaths.	Percentages.
Falls of roof	18	27·69	20	28·17
Falls of side	8	12·31	10	14·08
Shaft accidents	11	16·92	12	16·90
Explosives	4	6·15	4	5·63
Haulage	11	16·92	11	15·50
Miscellaneous below ground	5	7·70	6	8·46
Surface	8	12·31	8	11·26
TOTAL	65	100·00	71	100·00

TABLE No. 4.

ACCIDENTS, 1905.

Classified as to cause and mineral worked.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed.								Death-rate per 1000 persons employed.		
		Falls of roof.	Falls of side.	In shafts.	Explosives.	Haulage.	Miscellaneous below ground.	Surface.	Total deaths.	Below ground.	Above ground.	Below and above ground.
Coal	54	20	4	10	...	11	6	7	58	·94	·26	·72
Mica	4	...	1	1	2	...	...	...	4	·45	...	·25
Limestone	1	...	...	...	...	...	...	1	1	...	1·04	·46
Manganese	2	...	2	...	1	...	...	...	3	·89	...	·58
Gems	3	...	3	...	1	...	...	...	4	26·14	...	2·23
Gold	1	...	...	1	...	...	...	...	1	1·72	...	·93
TOTAL	65	20	10	12	4	11	6	8	71	·90	·20	·64

The death-rates are very low; but it must not be forgotten that, though Indian mining is developing rapidly, it is still in its infancy, and the workings, with few exceptions, are not elaborate. Mining disasters, involving the loss of large numbers of lives, are not so likely to happen in these conditions, but the mines are being made deeper, the workings more extensive and complicated, and the liability to serious disasters, as well as to single fatalities will be more probable in the near future. Attention is drawn, on page 10, to a danger which already threatens Bengal coal-mining.

Each fatal accident is briefly described in the list given in Appendix 1, but the following additional remarks and explanations are necessary :—

COAL-MINES—GENERAL REMARKS ON ACCIDENTS.

No less than 54 of the separate fatal accidents, out of a total of 65, happened in coal-mines. Three persons were killed by one accident, and two each by two others; the rest were single fatalities, and thus the total number of deaths was 58, giving a death-rate of ·72 per 1,000 persons employed below and above ground.

COAL-MINES—ACCIDENTS FROM FALLS OF ROOF AND SIDE.

There were 22 separate fatal accidents, causing the death of 24 persons, from this cause. Many were due to want of mining knowledge and reasonable supervision, notably Nos. 7, 8, 9, 10, 11, 12, 16 and 18 in the list given in Appendix I. Coal-mining is so new an industry in India that unskilled labour is being constantly introduced into the mines, and qualified subordinate native officials are necessarily scarce. In such circumstances, it is not surprising that many dangerous parts of the roof and sides are passed without notice. In one or two of the larger collieries, an excellent practice is in vogue of making the subordinate officials constantly tap the roof and sides, as they travel through the mine, whether alone or in company. They thus learn to detect any unsoundness, and the practice has the educational value of keeping their attention occupied with their duties, and in time giving them an instinctive pitman-like alertness.

COAL-MINES—SHAFT ACCIDENTS.

There were nine separate fatal accidents in coal-mine shafts, involving the loss of 10 lives, and, in addition, three persons not employed in mining were killed by falling down shafts from the surface. In two of these cases the shafts were not satisfactorily fenced (see accidents Nos. 8 and 10, supplementary list, Appendix I, pages 15 and 16). Efforts are being made to induce owners and managers to provide better fences for the working shafts. If fences are made to work automatically with the cages, or so designed that they can be readily removed and replaced by the banksman, a double purpose is served, for the pit-top can be worked more easily as well as more safely.

Three of the accidents, Nos. 27, 30 and 33, Appendix I, were due to failure of appliances. No. 27 on the list was caused by the iron ring, which joined the capping or socket of a winding-rope to the coupling-chains of a bucket used for raising coal in a shaft, breaking whilst a miner was being raised. This ring is the weak spot of the cage attachments, and care should be taken to have it of the best quality, and calculated to bear at least 12 times the load for which it is designed, for an unexpected jerk may subject it to an enormous strain. In this case, the ring was only 9/16ths. of an inch thick, and badly welded. It broke at the weld. No. 30 on the list was due to defective winding-machinery. Whilst three persons were being raised in a shaft, the key which kept the pinion wheel of the winding-engine in position fell out and set the drum free. The engineman promptly applied the brake, but the strap broke, and the cage fell to the bottom of the pit, and one of the men in it was killed. Reasonable care in examining the machinery and appliances would have

prevented both these accidents. No. 33 on the list is sufficiently explained in Appendix I.

COAL-MINES—HAULAGE ACCIDENTS.

There is very little mechanical haulage in Indian coal-mines, and, therefore, the record of 11 separate fatal accidents, causing the death of 11 persons during the year 1905, is distinctly unsatisfactory. The original cause of many haulage accidents is carelessness in coupling the tubs, and failure to use the stop-blocks at the tops of the inclines, but the miners seem to be very slow in avoiding runaway tubs, and do not realise the dangers of haulage-roads. For instance, in accident No. 51 on the list, the man who was killed was asleep in the level at the bottom of an incline.

The roof is so strong in most Indian coal-mines that travelling-roads separate from the haulage-roads could be very easily provided.

COAL-MINES—MISCELLANEOUS UNDERGROUND ACCIDENTS.

Five fatal accidents, causing six deaths, are registered under this heading. Only one requires special notice. This is No. 55 on the list. Pillars were being extracted at a Kusunda Colliery. It was noticed that there was likely to be a collapse, and the miners were withdrawn. Unfortunately, the colliery officials did not clearly realise the danger, and they allowed the men to sit in the mouth of the incline. When the fall took place there was a very violent air-blast, which carried large stones and pieces of coal before it, and the men in the incline were thrown over, and two of them were fatally injured. The fall extended to the surface, and broke down a water-course. If the accident had happened in the monsoon the mine would have been flooded. The galleries had been made far too wide at this mine to admit of the pillars being safely extracted. The owners abandoned the pillar-workings when the difficulties and dangers were pointed out to them.

General remarks upon the dangers from collapses of workings will be found in Section V, page 10.

COAL-MINES—ACCIDENTS ABOVE GROUND.

Seven fatal accidents, causing the death of the same number of persons, happened on the surface at coal-mines during the year. With one exception, they are all sufficiently explained in Appendix I. This case is No. 62 on the list. At a Jharia colliery a vertical boiler used for working a steam-pump suddenly exploded with great violence. The outer shell was blown into pieces which were scattered in all directions; one piece, measuring 18 inches $\times$ 36 inches, fell 625 feet away; another piece, 60 inches $\times$ 60 inches, killed a woman who was working at an incline 450 feet from the boiler. A girl who was near the boiler was also killed. It is remarkable that there were no more deaths.

The boiler was a very old one, and had only been working a few hours, after being idle for some years. It was internally fired, and, therefore, had two shells. The inner one had collapsed, but the outer one, which was probably weakened by internal and external corrosion, and which had lost its fibre, was torn into fragments by the explosion. The condition of the fittings could not be clearly ascertained, for they were blown great distances, and some were never found. It was obvious, however, that the boiler was quite unfit for work, and unable to withstand the steam pressure. Old leaks at the bottom junction of the outer and inner shells had been stopped with cement applied internally. The boiler had been illegally worked without a certificate from the Bengal Boiler Commissioners, and legal proceedings were taken against the owners, and they were fined. The particulars of the prosecution are given in Section IV, page 9.

ACCIDENTS IN MICA-MINES.

Considerable attention has been paid to Madras mica-mines, both by the Inspector of Mines appointed under the Act, and by the District Magistrates. In Madras leases are only granted under stringent conditions, and a system of inspection by local inspectors has been established. These inspectors, however, have no powers under the Indian Mines Act, but their reports have proved useful in drawing attention to irregularities.

It is too early to draw conclusions, but the fact that only 4 lives were lost during the year 1905, as compared with 12 in the preceding year is encouraging. Mica has been wastefully worked in the past, and it is hoped that increased attention to safety and system will also result in less waste in working. Through an oversight, accident No. 24, on the list given in Appendix I, was not reported to the proper authorities, and the first intimation the Mines Department had of it was that the owner was to be prosecuted under the Indian Penal Code for doing a rash and negligent act. The case was heard at Hazaribagh, and, after a long enquiry, the defendant was acquitted. The accident was due to a fall of stone from the side of a mica-pit. It is probable that the stone was overhanging and obviously dangerous before the accident, but the evidence of the police (who investigated the accident) was not conclusive.

ACCIDENTS IN OTHER MINERAL WORKINGS.

There were 7 fatal accidents in workings other than coal- and mica-mines causing 9 deaths. The deaths were in limestone mines 1; in manganese ore mines 3; in gem mines 4; and in gold mines 1. There were no fatalities in any other mines. Two persons were killed in each of the accidents Nos. 19 and 22, but these accidents, as well as those involving single deaths, are sufficiently explained in the list given in Appendix I.

Section IV.—Prosecutions.

DISCIPLINE, AND ADDITIONS TO THE ACT.

Numerous violations of the Act were discovered during the year, but they were promptly remedied, in most instances, when the attention of the owner, agent or manager was drawn to them, and a prosecution seemed to be justified and necessary in only one case. This was at a Jharia colliery, where the owners and manager failed to report an accident by which a woman working in an unfenced place was killed by a fall of coal. Section 17 of the Act requires that all fatal accidents shall be reported to prescribed authorities, and Notification No. 3352-45-32, dated the 27th December 1901, prescribes that the notice shall be sent to the Chief Inspector of Mines, through the District Magistrate. Rule 7 made under the Act requires that every entrance to any place, which is not in actual use or course of working, shall be properly fenced across the whole width of the entrance. I was making inspections in the neighbourhood, and chanced to hear of the accident, which had happened ten days before, and, as failure to send a notice could only be intentional or due to great negligence, legal proceedings were instituted against the owners and manager. Convictions were obtained, and the owners were fined ₹30 for failing to send the notice, and ₹100 for neglecting to fence. The owners having assumed full responsibility, the charges against the manager were withdrawn.

Another prosecution, though not under the Mines Act, may be mentioned:—Steam-boilers and prime-movers at Bengal Mines are regulated by the Bengal Steam-boilers and Prime-movers Act, 1879 (Bengal Act No. III of 1879), and are inspected by the Officers of the Bengal Boiler Commissioners. One of the provisions of the Act is to the effect that no boiler may legally be worked until it has been inspected, and a certificate issued that it is in a fit and proper state of working. At a Jharia colliery, steam was raised in an old

boiler which had been lying idle for some years, and, after it had worked for a few hours, it burst, and two women were killed. The accident is more fully described on page 8. No certificate had been issued for this boiler, and proceedings were, therefore, instituted against the owners, who were fined.

No additions to the Act were made during the year, but the first steps were taken to formulate Special Rules, under Section 21 (1) of the Act, to provide for the control and guidance of the persons acting in the management of, or employed in or about the mines, and for the safety, convenience, and discipline of the work-people. After correspondence with the Indian Mining Association, it was agreed that Special Rules for all Indian coal-mines should be based on a model code, so as to ensure uniformity in practice. A code was drafted by the Mines Department, and revised at a meeting of the Indian Mining Association, to which the Chief Inspector and Inspectors were invited. Eventually, the code was referred to the Mining Board by the Government of Bengal for final opinion. The rules will be found in Appendix IV, but the formalities necessary to give them legal force will be delayed until the "Rules for Managers and their Certificates" are issued.

Section V.—General Remarks.

A SERIOUS DANGER IN BENGAL COAL-MINING.

The roof over the coal seams in Bengal is, for the most part, very strong sandstone, free from joints and smooth partings, and it requires little timbering. In these conditions, the falls of small pieces of stone from the roof, which cause so many deaths in most coal-mines, are comparatively rare, but, unless proper mining methods are adopted, the remarkably sound roof becomes a serious danger instead of being a factor of safety.

Some managers and owners, presuming on the naturally safe conditions, drive the galleries so wide, and leave such small pillars that the roof falls over a large area, and crushes the small supporting pillars. This always results in a serious waste of coal, and frequently there is a grave danger of a loss of life on a very large scale. This danger, in some cases, will become even more serious in the future, when larger areas are mined, if the present methods are persisted in. Lives are not only endangered by the direct fall, but when the roof falls over a large area an air-blast is produced, and the air is forced through the galleries with such a velocity that it has the effect of an explosion. Two lives were lost from this cause (see page 8 and also accident No. 55, Appendix I), but a much more serious disaster was probably averted by the fortuitous visit of Mr. Grundy, the Inspector for No. 1 Circle, to Mouthdih mine, Sitarampur.

When inspecting the colliery, Mr. Grundy came to the conclusion that the workings would soon collapse, and when I made an inspection with him a few days afterwards the indications were more pronounced, and it was evident that the roof in one part might fall at any moment, and extend over a large portion of the mine, for some of the galleries were 20 feet wide, the pillars irregular, and many less than 12 feet square, and the seam was 18 feet thick. The owners appeared to be sceptical, but listened to reason, and stopped the working of the mine. This course was justified by events, for only two days afterwards, and without further warning, the roof fell over an area of 5,000 square yards, and broke through to the surface. The air-blast was so violent that the mine was wrecked, and the earth-tremors caused by the blast and the fall were felt half a mile from the mine. The mine became water-logged, and it has not yet been possible to inspect it underground. The blast, however, had rushed up the shafts and inclines, and gave striking evidence of its violence on the surface. At one shaft, the blast lifted the headgear bodily, leaving only three uprights standing, and the pit-trolly, winding-pulleys, broken pieces of the headgear, etc., were blown some distance from the pit-top. At another shaft, the top of the headgear with the winding-pulleys was blown off, the pit-trolly was broken in pieces, and large pieces of timber were blown 50 feet away. Large stones were hurled up the inclines.

It was most fortunate that the pit's company had been withdrawn, for no one could have been in the mine at the time of the collapse, and escaped alive.

At this mine the pillars were being "thinned" without regard to systematic working, but in any case it would have been impossible to extract the pillars in safety owing to their smallness and irregularity, and the excessively wide galleries.

Another collapse of workings happened at Deshergarh, where an area of 32,000 square yards of surface subsided with buildings and a main road, and it was providential that only one life was lost. In this case the mischief had been done underground 20 years ago.

If the workings are properly designed the pillars may be safely extracted, and, though the air-blasts will be a danger, ample warning of the fall will be given, precautions can be taken, and the roof will only break down over the area from which the coal is extracted, and will not crush over the pillars. Systematic pillar-working is in progress at several mines, and is most successful. The following description of the fall of a large "goaf"—the area from which the coal has been extracted—is compiled with the permission of the Superintendent of the East Indian Railway collieries, Giridih, from the notes of Mr. Adamson, the Manager of Kurhurbaree colliery. A large goaf with an area of 26,000 square yards had been formed. On the 26th. January, the first indications that the roof would fall were noticed, but the uneasiness only lasted for about an hour, and nothing further happened until 6 A.M. on the 9th. February when there were again evidences of roof-weight. The crush continued until 10 P.M. when "bumps," or loud reports, showing that the main roof was breaking, were heard, and at midnight the roof collapsed, and the air-blast was so violent that it blew out the brick-stoppings and ventilation-doors. One of the doors was "smashed to matchwood," and two loaded and eight empty tubs were blown along the roads, and upset. Proper arrangements had been made in anticipation of the fall, and all the men except the deputy overman and his sirdars, who were in a sheltered place at the far side of the shaft, had been withdrawn from the mine. The roof which fell was of considerable thickness, but did not fall to the surface. No less than 106,738 tons of coal had been won from this "goaf," and only 2,150 tons, left as "chowkidars" or small tell-tale pillars. Thus, 98 per cent. of the coal had been won, and only 2 per cent. lost. This is ideal mining, but the extraction of such a percentage would not be possible over the whole area of the mine.

Plans showing parts of the workings of two of the mines in which the collapses occurred are given at the end of this report. The regularity of the Kurhurbaree workings compared with the irregularity of the other excavations is most striking.

HOSPITALS.

Although 28,967 persons are employed at the mines in the Jharia coalfield, yet there is no public hospital. The principal colliery-owners pay native doctors and provide well-found surgeries, and an English doctor, paid by the Indian Mining Association, resides in the neighbourhood, but the nearest public hospital is at Raniganj, 57 miles away. In this coalfield the Indian and European population is increasing rapidly, and a properly equipped hospital is urgently needed. No surgeon can hope for the best results when he has to improvise operating-tables, and is without the modern appliances which have done so much to advance surgery. There is also need of a hospital in the neighbourhood of Sitarampur.

MINING AND GEOLOGICAL INSTITUTE OF INDIA.

An institute with this title was inaugurated at the end of the year. The objects are stated to be "the promotion of the study of all branches of mining methods, and of mineral occurrences in India, with a view to disseminating the information obtained, for facilitating the economic development of the country." Nearly all the prominent mining engineers and geologists in India have already been enrolled as members, and their united experience and opinions will be embodied in the papers read at the meetings, and the subsequent discussions

of the papers, and much valuable mining and geological information, which would be otherwise unrecorded, will be preserved in the publications of the Institute. In these, and in many other ways, the Institute may be expected to play an important and practical part in furthering the industrial development of the country, and in increasing the efficiency, and raising the status of the mining engineers and geologists of India.

VENTILATION.

Hitherto the problem of ventilation has not been considered a serious one by the majority of Indian colliery managers. The mines are shallow, the workings not very extensive, and openings communicating with the surface very numerous; fire-damp and other noxious gases are rare, and the galleries so large (often having a sectional area of 200 square feet) that the fluctuating ventilating-current, due to the difference in the temperature between the surface and the underground workings, or to steam pipes in the shafts, has not been very palpably inadequate. The rapid development of the coal-mines will soon make the provision of fans, capable of producing strong air-currents, essential, and arrangements will have to be made for nursing and directing the air-current through the workings. This is already recognised at some mines. For instance, during the year under review two "Walker's Indestructible Fans" were erected at the East Indian Railway Company's collieries at Giridih, each capable of producing 400,000 cubic feet of air per minute against a water-gauge of three inches. The fans are 24 feet in diameter, with 8 feet blades, and are driven by duplicate compound condensing engines. The ventilating installation would bear comparison with any in Europe.

A Sirocco fan (the latest type of ventilating fan) was fixed at Messrs. Apcar and Company's mines at Asansol early in the year, and is giving excellent results. It is running at a velocity of 250 revolutions per minute, and is producing 79,000 cubic feet of air against a water-gauge of $1\frac{1}{3}$ inches. This is considerably more than the guarantee. The fan is 5 feet in diameter, has a single inlet, and is driven by an engine with a cylinder 12 inches in diameter with an 11-inch stroke. With a maximum velocity of 365 revolutions per minute the fan is calculated to produce 93,000 cubic feet of air per minute against a water-gauge of 3 inches.

Only five other collieries in British India are equipped with ventilating fans, and the first fan has yet to be erected in the important Jharia coalfield.

It has been said that Indian miners object to an air-current, and prefer to work in a close, stagnant atmosphere. This does not appear to be the fact. In a Bengal coal-mine steam-pipes in a shaft induced a brisk air-current. This was not conducted round the workings, but was allowed to short-circuit through a gallery communicating between the intake and the return. It was noticed that this gallery was the favourite resting-place of the miners; they even slept there.

MINING BOARD.

The Bengal Mining Board held five meetings during the year. The important business referred to the Board included:—the "Rules for Managers and their certificates"; a "model" code of Special Rules, drafted by the Chief Inspector; proposals for revision of the methods of collecting the mineral statistics, and reporting accidents; the transfer of the head-quarters of the Mines Department; and alterations in Land Acquisition (Mines) Act notices.

OFFICIAL DUTIES.

The staff consists of a Chief Inspector and two District Inspectors, and was too small to do justice to the work of the Department. The appointment of an additional Inspector has been sanctioned, and this will enable a systematic arrangement of inspection to be made. Mr. Grundy, the Inspector for No. 1 Circle, was on duty the whole of the year, but Mr. Adams, the Inspector for No. 2 Circle, had three months' privilege leave and three months' leave under a medical certificate. Both officers discharged their duties with zeal and discretion.

LAND ACQUISITION (MINES) ACT, 1885.

Twenty-one enquiries and inspections under Section 5 of this Act, and ten under Section 11 were conducted by the officers of the Mines Department during the year. A schedule of them will be found in Appendix III. The following new departures were sanctioned by the Government of Bengal, and will, it is believed, have the effect of removing hardships and grievances, and avoiding friction. After each enquiry and inspection, the Chief Inspector will forward to the Agent of the Railway Company, and to the owner of the mine, a copy of the plan prepared by the Mines Department, and a draft of the declaration imposing restrictions on the working of the mines which he proposes to recommend the Government to gazette. The Agent of the Railway Company, and the owner of the mine will be invited to submit objections (if any) within 15 days. The Chief Inspector will thus be able to consider the objections before reporting to the Government of Bengal. When the declaration is gazetted a copy will be forwarded to all the persons concerned, with a copy of the Mines Department plan.

Numerous failures to comply with the gazetted declarations have been discovered during the year, and in some cases it has been necessary to require the mine owners to build substantial arches and other supports underground to secure the surface of the acquired land and the railway upon it.

KANGRA EARTHQUAKE.

On the 4th of April 1905, a severe earthquake, having its starting-point in the Kangra district of the North-West Himalayas, caused a serious loss of life, estimated at 20,000. The shock was so severe that it was felt at Calcutta and other places more than 1,000 miles from Kangra, and the earthquake was registered by the automatic seismological instruments in Europe, America, New Zealand and Japan.

A theory has been advanced that there is a connection between the earth-tremors which frequently occur in most countries, and the extraordinary fluctuations in the number of accidents from falls of roof in coal-mines. There are few mines near the focus of the Kangra earthquake, but circulars asking for information were sent to the managers of mines likely to be affected. The shock was felt 500 feet below ground at the Mayo salt-mine, but no damage whatever was done. In all other cases the evidence was negative. Seismologists appear to be agreed that earthquake-waves are very shallow surface ripples even when they wreck buildings, but the fact that the passing wave was felt 500 feet underground at Mayo seems to point to the conclusion that a reflex of the surface wave may be produced in certain conditions in extensively worked mines. This would certainly have the effect of unlocking the faults, joints and partings of the strata, and predisposing the roof to fall.

MINING INSTRUCTION.

A scheme for giving mining instruction in Bengal having been sanctioned by the Imperial Government, a Mining Professor (Mr. E. H. Roberton) and a Mining Instructor (Mr. W. T. Griffiths) were engaged from England, and they arrived in Calcutta on the 19th of November 1905. They are attached to the Sibpur Engineering College, for which a mining department has been formed. Mr. Roberton will be the resident Professor of Mining at the college, and Mr. Griffiths will act as a peripatetic instructor in the coal-mining districts of Bengal.

The details for the mining degrees and diplomas have not yet been sanctioned, and, therefore, Professor Roberton has not been able to enrol students, but his time has not been wasted, for he has made tours in the mining districts, and has been busy organising the new department, and making himself familiar with Indian conditions. Mr. Griffiths has given very successful preliminary lectures in various centres in the colliery districts.

When the scheme was advocated fears were expressed that there was no real demand for mining instruction in India, but they appear to have been

groundless, if reliance can be placed on the initial experiences of the professor and the instructor. The total number of students attending the 14 preliminary lectures given by Mr. Griffiths was 280 or an average of 20, for each lecture. At the most accessible centre 80 students attended the class. Professor Roberton has had applications for students desirous of being enrolled, and, what is more significant, he has received a letter from a manager in an important manganese mining district asking for three young men, one as a surveyor, and two as mining assistants, to start on a salary of ₹150 a month with free quarters. This seems to show that Indian-trained mining-students will be able to obtain employment when they have become qualified.

The syllabus for mining-students at Sibpur College is given in Appendix III, table No. 5, pages 39 and 40. An addition relating to practical work at the mines will be made.

The Indian mining-students, who hold technical scholarships given by the Government of India of the value of £150 a year in addition to tuition fees and travelling expenses, are studying mining and the allied sciences at Birmingham University. Good accounts of their progress are received.

HEALTH AND SANITATION.

During the year under review public health in the mining districts was satisfactory on the whole.

Towards the end of the monsoon there was an outbreak of plague in the Jharia coalfield causing very serious alarm. The colliery managers had fortunately been organised, in expectation of such an emergency, and took prompt action to prevent the spread of the infection. All the houses in which cases occurred, or which seemed to be specially insanitary were burned to the ground. Others were unroofed and opened to the weather, and by these means a threatened epidemic was averted. At first the people were disposed to resent these drastic measures, but when it was explained to them that ample compensation would be paid, and they realised the position, they became orderly, and cheerfully agreed to the destruction of their houses. The sum of ₹50,000 was provided to meet the compensation claims, one-third being contributed by the Government, and the rest by the mine-owners.

It is needless to enlarge upon the obviously serious consequences of a plague epidemic in the coal-mining districts, but it may be pointed out that attention to public health and sanitation is one of the first duties of the colliery manager. This is realised by many already, but united action is necessary to wipe out black spots which are a distinct danger.

In the Giridih coalfield a really serious effort has been made to exterminate the rats which are said, on apparently strong evidence, to spread the plague infection. Almost incredible numbers have been caught, the figure for the year 1905 being 246,898, and it is palpable that the rats, which previously swarmed in the villages, and were most destructive, have been greatly reduced in numbers. A circular issued by the Agent of the East Indian Railway, summarising the measures adopted at the Giridih collieries for the extermination of the rats, is given in Appendix III.

I have the honour to be,

SIR,

Your most obedient servant,

W. H. PICKERING,

Chief Inspector of Mines in India.

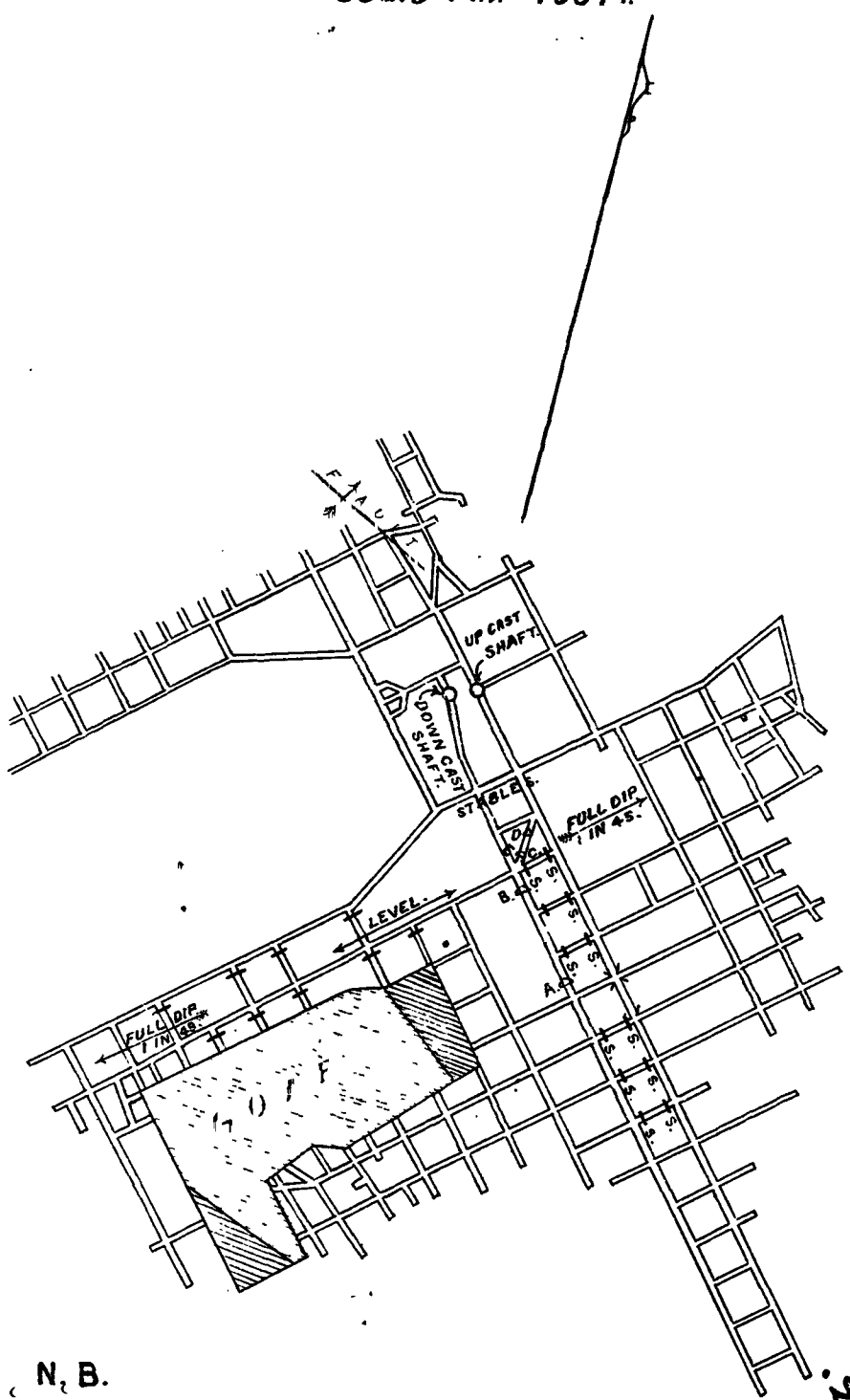
LIBRARY
OF THE
BOMBAY
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OF THE
ROYAL ASIATIC SOCIETY

E . I . R.

KURHURBAREE COLLIERY.

Plan of Joktiabad Mine (South Side)

Scale 1 In. = 400 Ft.



N. B.

Hatched part shewn in Red is the area of Goaf that fell on the 9th February 1905.

M. N. Sickering

SECTION OF STRATA.

Scale 1 Inch = 50 Ft.

BRICKWORK.	17'-9"	
SANDSTONE.	51'-0"	
COAL.	0'-4"	
SANDSTONE.	11'-8"	
COAL.	1'-6"	
SANDSTONE.	66'-6"	
COAL.	0'-4"	
SANDSTONE.	7'-6"	
COAL.	1'-6"	
SANDSTONE.	8'-0"	
COAL.	0'-6"	
SANDSTONE.	6'-8"	
COAL.	1'-9"	
SANDSTONE.	85'-9"	437'-3"
SHALE.	1'-0"	
DARKSTONE.	4'-0"	
SANDSTONE.	105'-6"	
COAL.	1'-0"	
SANDSTONE.	20'-0"	
COAL.	0'-9"	
SANDSTONE.	1'-6"	
COAL.	1'-0"	
SANDSTONE.	41'-9"	
COAL. 5'-0" / STONE. 2'-0" / COAL. 9'-0"		16'-0"
SANDSTONE.	20'-0"	
TOTAL.	473'-3"	

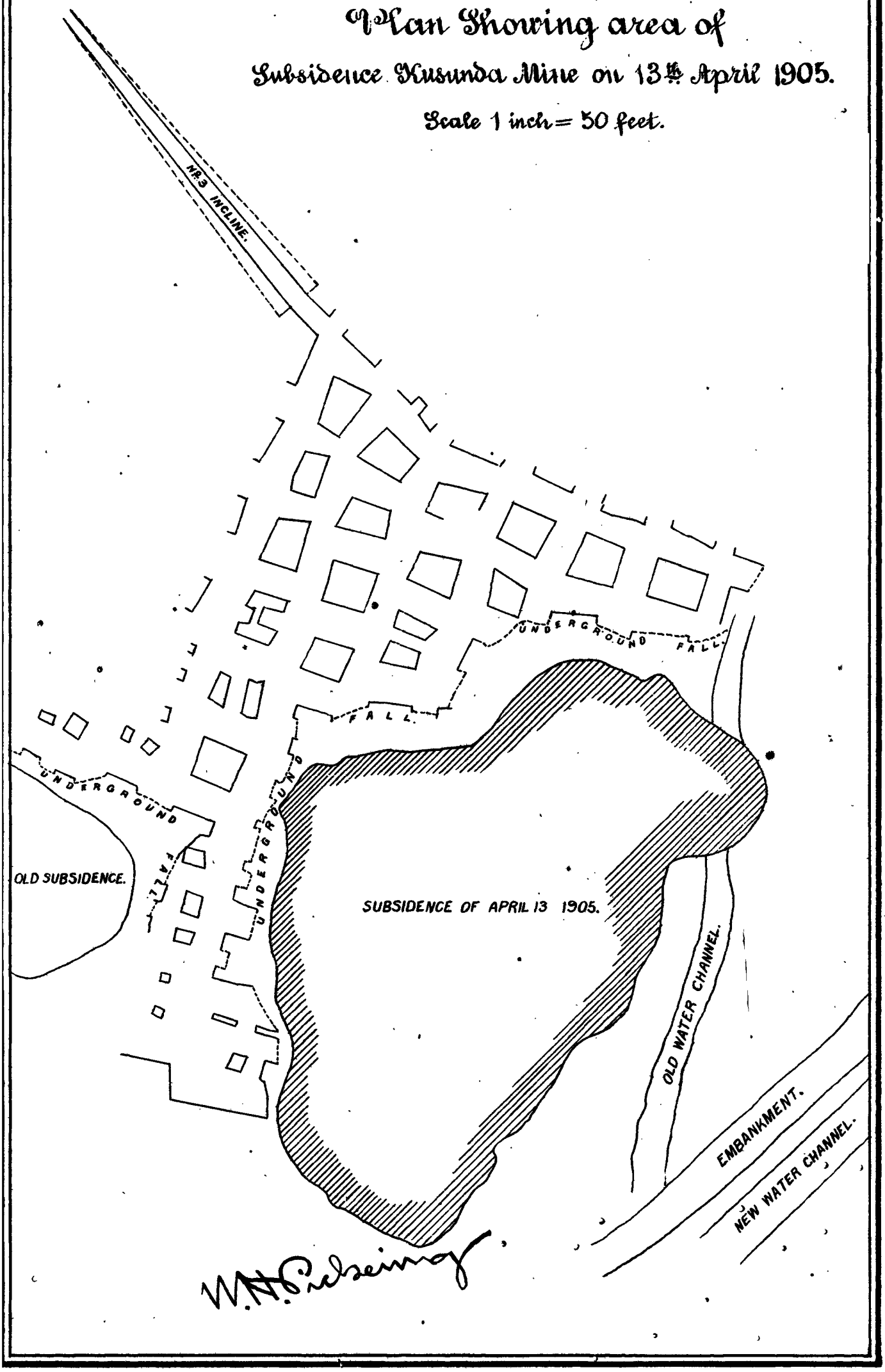
No 104 E. C. I. Mines.—Apr. 06 -1000

Dir. Process S. I. O., Calcutta.

Plan Showing area of

Subsidence Kusunda Mine on 13th April 1905.

Scale 1 inch = 50 feet.



W. N. Gibsing

No 104 E., C. I. Mines — 41 × 8 — 1400

Dir. Process, S. I. O., Calcutta.

APPENDIX I

Fatal Accidents, 1905.

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
			FALLS OF ROOF AND SIDE—(*30 deaths*).			
			(*a*) Falls of roof—(*20 deaths*).			
1	26th January, 7-30 A.M.	Gangutia Mine, Gangutia, Burdwan, Bengal.	Bengal Nagpur Coal Co., Ld.	Ramburan Bania, 35, (*m.*), *Timberman.*	Coal	The deceased with two others and a sirdar was getting down some dangerous roof-stone. They began to work near the middle of the dangerous part where a hole had been made by a previous fall, when a stone, 25′ × 5′ × 1½′, fell from the roof, and so seriously injured the deceased that he died from the effects 3½ hours afterwards. The fall slightly injured two of the others. Inspection and inquiry made.
2	4th March, 2-0 P.M.	Nandi Mine, Nandi, Burdwan, Bengal.	Adjai Coal Co., Ld.	Lakhu Maghan, 30, (*f.*), *Coal-carrier.*	Coal	The deceased was sitting in a working place with two men, when about 60 cubic feet of stone fell from the roof, and so seriously injured her that she died shortly afterwards; one of the men was injured seriously and the other slightly by the fall. Inspection and inquiry made.
3	2nd April, 4-0 A.M.	No. 2 Incline, Lakharia Mine, Bayra, Giridih, Hazaribagh, Bengal.	Bayra Coal Association.	Kem Chand Bhuri, 30, (*m.*), *Carpenter.*	Coal	He was knocked down by a fall of stone from the roof while withdrawing timber props, and received internal injuries through the effects of which he died 2 hours later. Inspection and inquiry made.
4	4th April, 4-0 P.M.	Sathpukuria Mine, Sathpukuria, Burdwan, Bengal.	Equitable Coal Co., Ld.	Lardu Singh, 30, (*m.*), *Coal-cutter.*	Coal	The deceased had just finished getting down coal from the face of his working-place, when a piece of stone, 5′ 0″ × 3′ 0″ × 0′ 9″, fell from the roof upon him. He was crushed against the coal-face. and killed on the spot. Inspection and inquiry made.
5	15th May, 10-0 A.M.	Guzh Mine, Khost Colliery, Khost, Thal Chotiali, Baluchistan.	North-Western Railway.	Malang, 28, (*m.*), *Miner.*	Coal	He was cutting coal against orders when he was injured by a fall of soft shale from the roof. Died on 6th June.
6	23rd May, 1-0 P.M.	Sor Range Mine, Quetta, Baluchistan.	Hasanally & Co.	Akram, 45, (*m.*), *Coolie.*	Coal	A huge piece of shale suddenly fell from the roof upon the deceased, and killed him.
7	16th June, 1-30 P.M.	Modidih Mine, Modidih, Jharia, Manbhum, Bengal.	Reliance Coal Co., Ld.	Tekon Meah, 21, (*m.*), *Coal-cutter.*	Coal	Killed by a fall of shale when getting down roof. Cause—want of mining knowledge, and an unforeseen "slip." *See Report, page 7.* Inspection and inquiry made.
8	3rd August, 12 noon.	No. 2 Incline, Jamadoba Mine. Jorapukur, Jharia, Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Uzir Kalal, 40, (*m.*), *Pump-kalasi.*	Coal	While at work behind a pump a large quantity of shale fell upon him from the roof, and caused injuries from the effects of which he died within half an hour. *See Report, page 7.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
		FALLS OF ROOF AND SIDE—(*30 deaths*)—contd.				
		(*a*) Falls of roof—(*20 deaths*)—contd.				
9	1st September, 7-30 A.M.	No. 1 Incline, Lutchipur Mine, Lutchipur, Burdwan, Bengal.	Lutchipur Coal Co., Ld.	Pain Manjhiain, 30, (*f.*), *Coal-carrier.*	Coal	The deceased and two men were sitting in a gallery, before beginning work, when about 2 tons of roof-stone fell and killed her instantly. The stone which fell was in a dangerous condition for some time before the accident happened, and should not have been left hanging so long. *See Report, page 7.* Inspection and inquiry made.
10	26th September, 10-30 A.M.	Alkusa Mine, Alkusa, Jharia, Manbhum, Bengal.	Raniganj Coal Association.	Megan Kahar, 45, (*m.*), *Coal-carrier.*	Coal	Fatally injured by a fall of coal from the roof of a working-place. The deceased intended to get down the coal which fell, and was sitting under it before beginning to work. The inspection of the roof, previous to the accident, was not satisfactory. *See Report, page 7.* Inspection and inquiry made.
11	3rd November, 1-0 P.M.	Searsole Mine, Searsole, Burdwan, Bengal.	Kumar Dakineswar Malia.	Nibaran Bauri, 25, (*m.*), *Coal-cutter.*	Coal	Four coal-cutters were working in the face of a gallery. Shortly after they began work the place was examined by an official, who found that the roof was dangerous. He, therefore, ordered the men to get down the overhanging, dangerous roof-coal before doing any more work, but when he left the place the men continued to get bottom coal, and whilst they were doing this the overhanging coal fell, and injured Nibaran so seriously that he died in a few hours. *See Report, page 7.* Inspection and inquiry made.
12	13th November, 11-30 A.M.	No. 4 Pit, Bamundiha Mine, Bamundiha, Burdwan, Bengal.	Damuda Coal Co., Ld.	Kokail Bauri, 45, (*f.*), *Water-bailer.*	Coal	The deceased was carrying clay along a main road, when coal, measuring 36′ 0″ × 13′ 0″ × 1′ 6″, fell from the roof, and killed her. The coal fell from a smooth parting, and it is probable that a careful examination before the accident would have disclosed the fact that the roof was becoming unsafe. *See Report, page 7.* Inspection and inquiry made.
13	19th November, 2 A.M.	Takrai Mine, Khost Colliery, Khost, Thal Chotiali, Baluchistan.	North-Western Railway.	Ida, 27, (*m.*), *Pack-wall coolie.*	Coal	The deceased went into the goaf to get dirt, against orders, when some roof fell upon him, fracturing his skull. He died instantly.
14	21st November, 11 A.M.	Upper Ledo Mine, Ledo, Lakhimpur Assam.	Assam Railways and Trading Co., Ld.	Udal Chamar, 24, (*m.*), *Coal-cutter.*	Coal	The deceased was cutting pillar-coal, and though he was apparently protected by timber, the roof-coal broke down between two props, and fell upon him, killing him on the spot.
15	12th December, 4 P.M.	Drift No. 1, Mach Mine, Kalat, Baluchistan.	Khan Bahadur B. D. Patel.	Mahomed Hussain, 25, (*m.*), *Coolie.*	Coal	While he was working in the drift a piece of shale, measuring 2′ × 2′ × ½′, fell on his right leg, injuring it so seriously that he died on the 26th instant.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
FALLS OF ROOF AND SIDE—(*30 deaths*)—contd.						
(*a*) Falls of roof—(*20 deaths*)—concld.						
16	13th December, 9 A.M.	No. 2 Incline, Bhagaband Mine, Bhagaband, Jharia, Manbhum, Bengal.	Borrea Coal Co., Ld.	Mohadur Singh, 27, (*m.*), *Contractor's Munshi.* Rupon Muchi, 35, (*m.*), *Hewer.* Rambaran Lala, 40, (*m.*), *Overman.*	Coal	Four men were standing at the junction of four galleries when a piece of the roof, 10′×10′×10½″, suddenly fell on them. Mohadur and Rupon were killed on the spot; Rambaran died subsequently; but the fourth man escaped with injuries. *See Report, page 7.* Inspection and inquiry made.
17	17th December, 2-30 P.M.	Dandot Mine, Dandot, Jhelum, Punjab.	North-Western Railway.	Shadman, 30, (*m.*), *Propsman.*	Coal	The deceased was drawing a chock when a stone, weighing 1½ tons, fell from the roof, and killed him.
18	23rd December, 11 A.M.	Ganzlatar Mine, Ganzlatar, Jharia, Manbhum, Bengal.	New Manbhum Coal Co., Ld.	Nancoo Bhuia, 50, (*m.*), *Miner.*	Coal	The pillars were being worked in this mine, and the deceased was in a gallery, 18 feet wide, thinning a pillar when the roof collapsed, and he was killed. The fall dislodged timber. The pillars were too small, and the galleries too wide for safe pillar-working. *See Report, page 7.* Inspection and inquiry made.
(*b*) Falls of side—(*10 deaths*).						
19	19th January, 4 P.M.	Mandri Mine, Mandri, Nagpur, Central Provinces.	The Central India Mining Co., Ld.	Sutti Maharin, 27, (*f.*), Ambu Powari, 25, (*m.*), *Coolies.*	Manganese	Fall from the side of an open quarry. Two men and a woman were at the bottom of the quarry under a vertical cliff of schist, 12 feet high. They were warned to come out of the place by other men who noticed the side was about to fall, but before they could escape the fall took place, killing the woman on the spot, and injuring one of the men so seriously that he died in 3 hours. The fall disclosed a "slip" or smooth joint. It was a mistake to leave such a high vertical side. *See Report, page 9.* Inspection and inquiry made.
20	1st February, near midnight.	Khuldia Mine, Giridih, Hazaribagh, Bengal.	Bengal Coal Co., Ld.	Tahal Gope, 30, (*m.*), *Assistant timberman.*	Coal	While the deceased and another man were assisting a carpenter to fix a prop, and to fence off a pillar-side that looked dangerous, about 15 tons of side-coal fell suddenly, and struck two of the men, killing the deceased instantly. Inspection and inquiry made.
21	4th February, 5-30 A.M.	Phularibad Mine, Phularibad, Jharia, Manbhum, Bengal.	J. L. Banerji.	Jhimal Bhuia, 40, (*m.*), *Coal-cutter.*	Coal	Killed by 3 tons of coal falling from a pillar upon him. Inspection and inquiry made.
22	28th February, night.	Sanga Mine, Sanga, Momeik, Burma.	Nandiya	Eik Ngo, 35, (*m.*), Wiriya, 25, (*m.*), *Coolies.*	Tourmaline.	The two deceased went at night to mine illicitly, and were killed by a fall of earth from the side. *See Report, page 9.*
23	22nd April, 4-30 P.M.	Raghunathchack Mine, Raghunathchack, Burdwan, Bengal.	Jagannath Marwari.	Lamhodar Bauri, 32, (*m.*), *Coal-cutter.*	Coal	He had undercut the coal in the face of a gallery, and was wedging it down when a small piece fell upon his leg, and broke it. Blood-poisoning and tetanus supervened, and he died on the 4th May. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
		FALLS OF ROOF AND SIDE—(*30 deaths*)—concld.				
		(*b*) Falls of side—(*10 deaths*)—concld.				
24	11th May, 3-0 P.M.	Chorakola Mine, Lurmuya, Hazaribagh, Bengal.	Gobardhan Dass	Lachman Rai, 35, (*m.*), *Coolie.*	Mica	The deceased was working at the bottom of an open quarry when a stone, weighing about 10 mds., fell upon him, killing him on the spot. *See Report, page 9.*
25	17th August, 8-0 A.M.	No. 1 Incline, Simlabahal Mine, Simlabahal, Jharia, Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Persali, 40, (*f.*), *Coal-kamin.*	Coal	The deceased and her son were robbing coal from a pillar when about 3 tons of coal fell from the side, and killed her instantly. Inspection and inquiry made.
26	11th September, 10-15 A.M.	Sbwebontha Mine, Mogok, Upper Burma.	Burma Ruby Mines Co., Ld.	Aik Poung, 20, (*m.*), *Coolie.*	Ruby	Five men were excavating ruby-earth from the side when the earth suddenly fell upon them, suffocating deceased, and injuring the others.
		IN SHAFTS—(*12 deaths*).				
		(*a*) Ropes and chains breaking—(*1 death*).				
27	4th January, 7-0 P.M.	Kessabganj Mine, Kessabganj, Burdwan, Bengal.	R. B. Marwari	Mathura Bauri, 23, (*m.*), *Coal-cutter.*	Coal	The deceased was riding up the pit in a bucket when, at about 50 feet from the bottom, the round, iron link broke, near the "capping", and he fell to the bottom with the bucket, and was killed instantly. The link was only 9/16" thick, and broke near the welding. *See Report, page 7.* Inspection and inquiry made.
		(*b*) Whilst ascending or descending by machinery—(*3 deaths*).				
28	21st June, 10-30 A.M.	No. 8 Pit, Bamundiha Mine, Bamundiha, Burdwan, Bengal.	P. C. Dutta & Co.	Haram Mangi, 31, (*m.*), *Head sirdar.*	Coal	Fell from a bucket whilst descending. It is probable that he was sitting on the rim of the bucket with his legs outside, and that the bucket struck the side of the shaft, which was not fitted with guides. Inspection and inquiry made.
29	5th October, 10-30 A.M.	No. 2 Pumping shaft, Bhutgoria Mine, Bhutgoria, Jharia, Manbhum, Bengal.	Aldih Coal Co., Ld.	Lochman, 27, (*m.*), *Coolie.*	Coal	Fell from the platform of a pump, which was being lowered in the shaft by a crab, and was killed. Too many men were allowed on the platform, and the rope had been carelessly and irregularly lapped on the drum of the crab. Inspection and inquiry made.
30	26th October, 2-0 P.M.	No. 2 Pit, Faridpur Mine, Charanpur, Burdwan Bengal.	Soshi Bhusan Mukherji.	Behari Bauri, 35, (*m.*), *Coal-cutter.*	Coal	Two men and a woman were being raised in the shaft, and when they were 70 feet from the bottom, the key, which kept the pinion-wheel of the winding-engine in position, fell out, and disconnected the drum, which began to reverse. The engine-man applied the brake, but the strap broke, and the skip and winding rope fell with the men and woman to the bottom of the shaft. They were all seriously injured, and Behari died as soon as he was brought to the surface. The others recovered. *See Report, page 7.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
		IN SHAFTS (*12 deaths*)—concld.				
		(*c*) **Falling into the shaft from the surface**—(*2 deaths*).				
31	13th February, 11-30 P.M.	No. 1 Pit, Bhaga Mine, Bhaga, Jharia, Manbhum, Bengal.	Jharia Colliery Co., Ld.	Tilah Din, 30, (*m.*), *Banksman.*	Coal	While in a state of intoxication he foolishly tried to oil the clutches from the flat sheets instead of getting on the cage to do so, and fell headlong down the shaft from the surface. Died instantaneously. Inspection and inquiry made.
32	22nd December, 4-30 P.M.	Varadaraja Mine, Mangalpur, Nellore, Madras.	Haitan Reddi and Penchal Reddi.	Guruge Boiegadu Reddi, 20, (*m.*), *Coolie.*	Mica	Fell into the mine while breaking a rock, and was killed. Inspection and inquiry made.
		(*d*) **Falling from part of the way down**—(*4 deaths*).				
33	30th January, 8-25 P.M.	No. 1 Pit, Sitalpur Mine, Sitalpur, Burdwan, Bengal.	Bengal Coal Co., Ld.	Mohar Dhobi, 30, (*m.*), *Head mistri.* Somar Sheik, 28, (*m.*), *Fitter.*	Coal	The ascending cage became fast in a damaged guide-rod. The winding-rope was clamped to the pit-frame so that the other cage could be worked independently. The deceased then went down the shaft to free the cage from the damaged rod, and as soon as they did so the cage fell with them to the bottom of the shaft, a distance of 130 feet, and they were killed. The clamps upon which they relied failed to hold. *See Report, page 7.* Inspection and inquiry made.
34	21st June, 3-30 P.M.	No. 12 Sinking Pit, Lakorka Mine, Lakorka, Jharia, Manbhum, Bengal.	Lakorka Coal Co.	Ismail Sheik, 34, (*m.*), *Pump-kalasi.*	Coal	Fell from a bucket into the sump whilst being raised, and was drowned. Inspection and inquiry made.
35	31st December, 7-30 A.M.	Dharwar Mine, Kabulayatkatti, Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Kulloor Paghan, 19, (*m.*), *Underground Contractor's Coolie.*	Gold	He was ascending by a ladder when he missed his foot-hold, and, falling a distance of 40 feet, was killed.
		(*e*) **Things falling from the surface**—(*1 death*).				
36	15th June, 2-0 P.M.	No. 1 Sinking Pit, Brahminbarari Mine, Jealgora, Jharia, Manbhum, Bengal.	East Indian Coal Co., Ld.	Dharu Singh, 30, (*m.*), *Sinker.*	Coal	A plumbing wire was passed through a hole in a piece of timber placed across the top of a sinking shaft. The wire was being raised by means of a windlass when it stuck in the hole, and broke after displacing the timber; the timber fell to the bottom of the shaft, and killed deceased. Inspection and inquiry made.
		(*f*) **Miscellaneous**—(*1 death*).				
37	20th September, 9 P.M.	Kessabganj Mine, Kessabganj, Burdwan, Bengal.	Ganpat Ram Marwari.	Solma Majhin, 20, (*f*), *Coolie.*	Coal	She was at the bottom of a shaft which was not fitted with guides when a bucket of coal, which was being raised, swung across the pit-bottom, and dashed her against a pillar, and killed her. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
			BY EXPLOSIVES—(*4 deaths*).			
38	19th January, 12 noon.	Garbham Mine, Garbham, Vizagapatam, Madras.	The Vizianagram Mining Co., Ld.	P. Atchadu, 25, (*m.*), *Coolie.*	Manganese	The shot-firer had charged one hole, and was charging a second when deceased, of his own accord, lit the fuse of the first charge, and the sparks from the spluttering fuse ignited some powder which he had in an open basket. He was so badly burnt that he died on the 24th January. Inspection and inquiry made.
39	23rd February, 2-0 P.M.	Murgoa Mine, Kodarma, Hazaribagh, Bengal.	F. F. Chrestien & Co.	Bhikhoa Turi, 18, (*m.*), *Coolie.*	Mica	The explosives, consisting of a few detonators, fuse, a little gunpowder and two or three dynamite cartridges, were placed under a tree, ready for the day's work. The deceased was apparently tampering with them when they exploded, and he and another man were injured. His injuries proved fatal in about 6 hours. Inspection and inquiry made.
40	27th March, 9-0 A.M.	Newlands Mine, Marupur, Rapur, Nellore, Madras.	K. Audinarayana Reddi.	Bellamkonda Veeradu, 20, (*m.*), *Coolie.*	Mica	An explosion happened whilst three men were removing rock, and they were all seriously injured. Veeradu died on 28th March. It is probable that the explosion was due to one of the men striking the gunpowder charge of a shot which had previously missed fire. Inspection and inquiry made.
41	30th July, 1-30 P.M.	Drainage Tunnel, Mogok Valley Mine, Mogok, Upper Burma.	Burma Ruby Mines, Ld.	Lou See, 26, (*m.*), *Coolie.*	Ruby	Was directed to drill a hole near a socket left by a previous blast. To suit his own convenience he drilled in a different spot to the one ordered, and his drill struck part of the charge which had not exploded; and he was killed by the explosion which followed. Another man was slightly injured.
			HAULAGE—(*11 deaths*).			
42	27th January, 3-0 P.M.	No. 7 Incline, Choitodih Mine, Choitodih, Jharia, Manbhum, Bengal.	Luchipur Coal Co., Ld.	Getun Meah, 22, (*m.*), *Labourer.*	Coal	A train of 9 tubs was pushed over the incline before the coupling of the 3rd and 4th tubs were fastened, and the lower safety-gate shut; in consequence of which 6 tubs ran wild down the incline, and killed the deceased. Inspection and inquiry made.
43	16th February, 9-0 A.M.	No. 2 Incline, Jamadoba Mine, Jorapukur, Jharia, Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Srimati Majhan, 29, (*f.*), *Coal-carrier.*	Coal	A train of empty tubs was being lowered into the mine down an incline, when six of them, became uncoupled and running down, caught the deceased, injuring her so seriously that she died in 3 days. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
			HAULAGE—(*11 deaths*)—concld.			
44	16th April, 6-0 A.M.	No. 2 Incline, Jamadoba Mine, Jorapukur, Jharia, Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Gajadhur Chamar, 32, (*m.*), *Hookman.*	Coal	A train of seven empty tubs was being lowered into the mine, and the engine-driver, thinking he noticed a loose pin in the link-motion of the haulage engine, stopped the engine suddenly. The jerk opened out the hook of the tub next the rope, and the whole train ran amain down the incline, and fatally injured Gajadhur, who was at the first level. Inspection and inquiry made.
45	6th May, 1-30 P.M.	No. 2 Incline, Loyabad Mine, Loyabad, Jharia, Manbhum, Bengal.	Barakar Coal Co., Ld.	Ponay Majhan, 18, (*f.*), *Dust-woman.*	Coal	She was illegally riding on a train of tubs which was being drawn out of the mine when she fell between the tubs, and was killed. Inspection and inquiry made.
46	31st May, 3-30 P.M.	No. 1 Incline, Jamadoba Mine, Jorapukur, Jharia, Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Bhatu Singh, 25, (*m.*), *Trammer.*	Coal	Whilst the hookman was away from the landing the deceased attached a full tub to the haulage rope, and was attaching a second tub when the first ran back, and injured him internally. He died a few hours later. Inspection and inquiry made.
47	30th June, 5-0 P.M.	Tikak Mine, Tikak, Lakhimpur, Assam.	The Assam Railways and Trading Co., Ld.	Niroda, 19, (*f.*), *Coal-carrier.*	Coal	Fell while attempting, against orders, to ride on a train of loaded tubs which was being drawn out of the mine, and was run over. She died about midnight of same date.
48	5th July, 7-30 P.M.	Main Incline, Khoira Mine, Khoira, Jharia, Manbhum, Bengal.	East Indian Coal Co., Ld.	Alam Roy, 22, (*m.*), *Coal-cutter.*	Coal	He was so seriously injured by a train of empty tubs which he failed to avoid that he died a few hours later. Inspection and inquiry made.
49	25th August, 3-0 P.M.	Khost Mine, Khost, Thal Chotiali, Baluchistan.	North-Western Railway.	Meer Allum, 40, (*m.*), *Filler.*	Coal	A tub was carelessly allowed to run amain down a very steep dip without being attached to the rope. The tub left the rails, knocked out several sets of timber, and fell to the bottom of the dip, and killed Meer Allum.
50	2nd November, 12-30 P.M.	Zardalu Mine, Khost Colliery, Khost, Thal Chotiali, Baluchistan.	North-Western Railway.	Saidun Shah, 28, (*m.*), *Hooker-on.*	Coal	He was standing on the haulage rope in front of a tub, when it was hauled up a little, and he was killed by being crushed between the tub and a low part of the roof. Riding on the tubs is forbidden at this mine.
51	9th November, 4-30 A.M.	No. 4 Incline, Joyramdanga Mine, Joyramdanga, Burdwan, Bengal.	New Beerbhum Coal Co., Ld.	Chintaman Singh or Roy, 40, (*m.*), *Sirdar.*	Coal	Through carelessness, the tubs at the top of an incline were not coupled, and the stop-blocks were left open, with the result that four empty tubs ran amain down the incline, and knocked a full tub on to Chintaman, who was asleep in the bottom level, and killed him. *See Report, page 8.* Inspection and inquiry made.
52	27th November, 2-30 P.M.	No. 3 Mine, Khost Colliery, Khost, Thal Chotiali, Baluchistan.	North-Western Railway.	Naboo, 32, (*m.*), *Miner.*	Coal	While pushing a tram over a bank he was pulled down with it, and was killed.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
			SUNDRIES UNDERGROUND—(*6 deaths*).			
53	25th February, 4-0 A.M.	No. 30 Pit, Khuldia Mine, Khuldia, Giridih, Hazaribagh, Bengal.	Bengal Coal Co., Ld.	Meghni Ghato Warni, 14, (*f.*), *Coal-carrier.*	Coal	She was emptying a basket of coal into a tub upon which she had previously hung her lamp, when her clothes took fire, and she was so severely burnt that she died 17 hours later. Inspection and inquiry made.
54	15th March, 4-0 P.M.	Kurhurbari Mine, Kurhurbari, Giridih, Hazaribagh, Bengal.	East Indian Railway Co.	Bhickni Bhuini, 25, (*f.*), *Coal-carrier.*	Coal	A piece of coal, on being pulled down, broke, and rolled forward against her leg, and fractured it. She died on the 19th instant. Inspection and inquiry made.
55	13th April, 2-0 P.M.	No. 3 Incline, Kusunda Mine, Kusunda, Jharia, Manbhum, Bengal.	Kanga & Co.	Ballu Barai, 40, (*m.*), *Carpenter.* Kalu Pasi, 28, (*m.*), *Coolie.*	Coal	The collapse of a large area of roof caused a very violent rush of air, and the two men, who were in the incline close to the mouth, were thrown down and seriously injured. Ballu Barai died shortly after, and Kalu Pasi on the 28th instant. (*See Report, page 8.* Inspection and inquiry made.
56	4th May, 5-0 P.M.	Kantapahari Mine, Kantapahari, Burdwan, Bengal.	Barakar Coal Co., Ld.	Srimento Bauri, 42, (*m.*), *Coolie.*	Coal	A pump was being taken along a level on a trolly. It was not properly secured, and it overbalanced, and fell upon deceased, and killed him. Inspection and inquiry made.
57	4th May, 4-0 P.M.	Namdang Mine, Namdang, Lakhimpur, Assam.	Assam Railways and Trading Co., Ld.	Maltia, 24, (*f.*), *Coal-carrier.*	Coal	Sustained a fracture of the leg by a piece of coal which was thrown down a steep thirl. Died later, after amputation of the leg.
			ABOVE GROUND—(*8 deaths*).			
			(*a*) **By surface machinery**—(*1 death*).			
58	19th November, 4-30 A.M.	No. 3 Incline, Dumarkunda Mine, Dumarkunda, Manbhum, Bengal.	Bengal Coal Co., Ld.	Kangal Bauri, 16, (*m.*), *Boiler-fireman.*	Coal	The deceased became entangled in the hauling-engine drum, and was killed. Inspection and inquiry made.
			(*b*) **On surface railways and tramways belonging to the mine**—(*1 death*).			
59	22nd April, 0-30 Midnight.	Aldih Mine, Aldih, Burdwan, Bengal.	Aldih Coal Co., Ld.	Malu Bauri, 22, (*m.*), *Loading- and shunting-coolie.*	Coal	The deceased, with others, was hand-shunting a coal wagon on the siding, and, whilst trying to use the brake, he fell against the wagons, and received internal injuries from which he died within 4 hours. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1905—*contd.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Cause of accident, and remarks.
		ABOVE GROUND—(*8 deaths*)—concld.				
		(*c*) **Miscellaneous on surface**—(*6 deaths*).				
60	1st January, 6-30 P.M.	Dishargarh Mine, Dishargarh, Burdwan, Bengal.	Equitable Coal Co., Ld.	Magaram Bauri, 61, (*m.*), *Miner.*	Coal	The walls of his hut fell in owing to a subsidence of the ground on which it stood, and he was found dead under the debris. Inspection and inquiry made.
61	4th February, 11-30 A.M.	No. 8 Pit, Choto Dhemo Mine, Choto Dhemo, Burdwan, Bengal.	Choto Dhemo Coal Co.	Bholanath Kurmukar, 35, (*m.*), *Fitter.*	Coal	A part of a new gear-head was being raised into position when the wire rope came out of the pulley at the top of the mast. The deceased went up the mast, and the rope was slackened so that it could be replaced in the pulley groove. This deprived the mast of its support, and it fell with the deceased. His leg was fractured, and he died 4 days afterwards. Inspection and inquiry made.
62	24th March, 10 A.M.	Bhalgora Mine, Bhalgora, Jharia, Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Dulabin Routin, 24, (*f.*), *Coal-carrier.*	Coal	A boiler exploded, and the outer shell and fittings, scattering in all directions, killed the deceased. *See Report, page 8.* Inspection and inquiry made. A girl, who was not employed, happened to be near the boiler, and was also killed. *See supplementary list accident No. 2.*
63	1st April, 6 A.M.	Limestone Quarry, Katni, Central Provinces.	A. H. Wheeler & Co.	Jethu Kol, 35, (*m.*), *Coolie.*	Limestone	He was on the top of a lime-kiln when he slipped into the burning lime, and was so seriously injured that he died on 11th April. Inspection and inquiry made.
64	15th November, 5 P.M.	Chandametta Mine, Chandametta, Chhindwara, Central Provinces.	Pench Valley Coal Field Co.	Golta Katia, 40, (*m.*), *Coolie.*	Coal	Shots were being fired in a trial pit, when a stone, weighing 8 lbs., was projected from one of the shots, and fell upon Golta (who was on the surface, 135 feet from the pit), and killed him.
65	17th December, 2 P.M.	Dandot Mine, Dandot, Jhelum, Punjab.	North-Western Railway.	Karam Illahi, 40, (*m.*), *Wagon-loader.*	Coal	He was fatally injured by being struck by pieces of stone projected a distance of 42 feet from a shot fired on the surface. Died on the 19th.

APPENDIX I—*concld.*

Fatal Accidents, 1905—*concld.*

No. of accident.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, age, sex, and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident, and remarks.
				DEATHS NOT INCLUDED IN THE STATISTICS—(*10 deaths*).			
1	19th January, 2-0 P.M.	Mandri Mine, Mandri, Nagpur, Central Provinces.	The Central Indian Mining Co., Ld.	Guji, 7, (*f.*), *Not employed.*	Manganese	Not employed.	She was following her mother across the line when she was run over by a tub which was being trolleyed from the mine, and was fatally injured. She died 2 or 3 days later. Inspection and inquiry made.
2	24th March, 10 A.M.	Bhalgora Mine, Bhalgora, Jharia, Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Maman Musalmain, 16, (*f.*), *Not employed.*	Coal	Not employed.	Killed by an explosion of a boiler. *See accident No. 62.*
3	7th May, 3-0 P.M.	Jealgora Pit, Brahminbarari Mine, Jealgora, Jharia, Manbhum, Bengal.	East Indian Coal Co., Ld.	Makhani Kamar, 11, (*f.*), *Brick-carrier.*	Coal	Not working at the time.	Was missed on the 7th, and, about 11 A.M. on the 8th, her body was found in the boiler-tank by a man who was bathing. It is supposed she fell in whilst washing utensils. Inspection and inquiry made.
4	30th August, 8-0 A.M.	Katras Mine, Katras, Jharia, Manbhum, Bengal.	Nowaghur Coal Co., Ld.	Derchand Mahuri, 55, (*m.*), *Not employed.*	Coal	Not employed.	He was run over by a train of loaded tubs while walking along the tram-line. He was deaf and crippled, and did not hear the tubs nor the warning shouts of men who saw his danger. Inspection and inquiry made.
5	30th August, 2-30 P.M.	Dharwar Mine, Kabulayatkatti, Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Joseph, 16, (*m.*), *Private servant.*	Gold	Private servant.	Deliberately shot himself through the head.
6	8th September, 10-45 A.M.	Bamundiha Mine, Bamundiha, Burdwan, Bengal.	Damuda Coal Co., Ld.	Durgi Lohar, 6, (*m.*), *Not employed.*	Coal	Not employed.	As a loaded tram was pushed towards the loading depôt, the child walked on to the line, and was knocked down, and killed by the tram. Inspection and inquiry made.
7	17th September, 2-0 P.M.	Brahminbarari Mine, Brahminbarari, Jharia, Manbhum, Bengal.	East Indian Coal Co., Ld.	Sanchery Makain, 45, (*f.*), *Coolie.*	Coal	Not on duty at time of accident, and quarry abandoned.	The deceased went down a steep side in an abandoned quarry, and was bathing her head when she overbalanced and fell into the water, and was drowned. Inspection and inquiry made.
8	16th November, 7-0 A.M.	Pumping pit, Sendra Mine, Sendra, Jharia, Manbhum, Bengal.	Rai Srinath Pal, Bahadur.	Mohamed Aghar Sheik, 15, (*m.*), *Not employed.*	Coal	Not employed.	He had come to the mine to see his brother, and was looking down the shaft when he lost his balance and fell to the bottom, and was killed. The fencing of the pit-top was not satisfactory. *See Report, page 7.* Inspection and inquiry made.
9		Sendra Mine, Sendra, Jharia, Manbhum, Bengal.	A. A. Agabeg	? —, (*m.*), *Not employed.*	Coal	Disused mine, and deceased not employed.	Found dead in a disused shaft. The body could not be identified.
10		No. 1 Pit, Sejua Mine, Sejua, Jharia, Manbhum, Bengal.	Sejua Coal Co., Ld.	Body not identified. —, (*f.*).	Coal	Not employed.	The body was found at the bottom of a ventilating-shaft, 100 feet deep, on the 21st October, but it is not known whether she fell down the shaft, was thrown down, or committed suicide. No evidence could be gathered. The fencing at the top of the pit was very unsatisfactory. *See Report, page 7.* Inspection and inquiry made.

APPENDIX II.

Table No. 1.

Indian Mines Act, Number of Mines and Workers, year 1905.

Province.	District and mineral field.	Number of mines within the scope of the Act.	Number of mines: Worked by steam.	Number of mines: Not worked by steam.	Number of mines inspected during the year: Once.	Number of mines inspected during the year: Twice or more.	Average number of persons employed daily in and about the mines: Below-ground: Adult males.	Below-ground: Adult females.	Below-ground: Children (under 12).	Below-ground: Total below-ground.	Above-ground: Adult males.	Above-ground: Adult females.	Above-ground: Children (under 12).	Above-ground: Total above-ground.	Grand Total below- and above-ground.
	A.—COAL.														
ngal	Hazaribagh, Giridih	8	5	3	2	5	5,401	2,169	70	7,640	1,996	674	245	2,915	10,555
	Manbhum, Jharia	102	67	35	31	38	11,214	7,438	320	18,972	5,829	3,354	812	9,995	28,967
	Do., Raniganj	16	11	5	3	1	1,275	387	2	1,664	455	190	11	656	2,320
	Bankura, „	2	1	1	...	...	49	24	...	73	7	9	...	16	89
	Birbhum, „	1	1	...	...	...	12	13	...	25	3	3	...	6	31
	Burdwan, „	107	106	1	22	37	15,080	5,701	303	21,084	6,396	3,370	395	10,161	31,245
	Santhal Parganas, Raniganj.	2	2	...	...	...	19	9	...	28	6	6	...	12	40
	Santhal Parganas, Rajmahal.	4	...	4	..	...	18	3	1	22	...	...	...	...	22
	Palamau, Daltonganj	1	1	...	...	...	428	49	17	494	189	53	16	258	752
	Sambalpur, Rampur	2	2	...	...	...	...	...	...	...	30	20	...	50	50
	TOTAL	245	196	49	58	81	33,496	15,793	713	50,002	14,911	7,679	1,479	24,069	74,071
entral Provinces.	Chhindwara, Pench Valley.	1	..	1	...	...	35	38	...	73	21	10	...	31	104
	Narsinghpur, Mohpani	1	1	...	1	2	320	92	...	412	218	50	...	268	680
	Chanda, Warora	2	2	...	...	...	563	...	...	563	387	29	...	416	979
	TOTAL	4	3	1	1	2	918	130	..	1,048	626	89	...	715	1,763
njab	Jhelum	6	1	5	...	...	1,228	2	20	1,250	671	1	14	686	1,936
	Shahpur	2	...	2	...	...	25	...	...	25	37	...	...	37	62
	Attock	3	...	3	...	...	20	...	2	22	10	...	1	11	33
	TOTAL	11	1	10	...	...	1,273	2	22	1,297	718	1	15	734	2,031
ssam	Lakhimpur	5	5	...	...	...	623	316	...	939	334	190	32	556	1,495
	Khasia and Jaintia Hills.	1	...	1	...	...	37	3	...	40	7	...	...	7	47
	Sibsagar, Dikhu Valley	1	...	1	...	...	...	...	...	...	7	...	...	7	7
	TOTAL	7	5	2	...	...	660	319	...	979	348	190	32	570	1,549
luchistan	Sibi (Khost)	6	6	...	...	...	477	..	...	477	224	...	18	242	719
	Quetta (Sor Range)	3	...	3	...	...	90	...	...	90	26	...	...	26	116
	Kalat (Mach and Digari)	3	...	3	...	...	167	...	...	167	54	...	...	54	221
	Loralai	1	...	1	...	...	26	...	...	26	...	...	...	...	26
	TOTAL	13	6	7	...	...	760	...	...	760	304	...	18	322	1,082
	GRAND TOTAL. (COAL.)	280	211	69	59	83	37,107	16,244	735	54,086	16,907	7,959	1,544	26,410	80,496
	B.—MICA.														
ngal	Monghyr	1	...	1	...	...	28	...	...	28	26	...	...	26	54
	Hazaribagh	197	...	197	7	9	2,005	606	112	2,723	792	938	798	2,528	5,251
	Gaya	6	...	6	...	3	358	221	47	626	93	54	44	191	817
	TOTAL	204	...	204	7	12	2,391	827	159	3,377	911	992	842	2,745	6,122
adras	Nellore	68	...	68	11	...	2,456	2,494	296	5,246	872	1,146	1,871	3,889	9,135
	Nilgiris	2	...	2	...	...	7	...	..	7	47	6	4	57	64
	TOTAL	70	...	70	11	...	2,463	2,494	296	5,253	919	1,152	1,875	3,946	9,199
ajputana	Ajmer-Merwara	1	...	1	...	...	122	...	...	122	70	46	22	138	260
	GRAND TOTAL (MICA)	275	...	275	18	12	4,976	3,321	455	8,752	1,900	2,190	2,739	6,829	15,581
	C.—MANGANESE ORE.														
entral Provinces.	Nagpur	15	...	15	3	...	781	671	12	1,464	248	193	4	440	1,904
	Buandara	1	...	1	...	...	150	50	...	200	...	75	25	100	300
	Balaghat	1	...	1	...	...	161	120	12	293	41	17	11	69	362
	TOTAL	17	...	17	3	...	1,092	841	24	1,957	284	285	40	609	2,566
adras	Vizagapatam	9	...	9	2	...	915	478	...	1,393	641	397	77	1,115	2,508
ombay	Belgaum	2	...	2	...	...	...	...	...	...	35	13	...	48	48
	GRAND TOTAL (MANGANESE.)	28	...	28	5	...	2,007	1,319	24	3,350	960	695	117	1,772	5,122

APPENDIX II—*contd.*

Table No. I.—*concld.*

Indian Mines Act, Number of Mines and Workers, year 1905—*concld.*

Province.	District and mineral field.	Number of mines within the scope of the Act.	Number of mines.		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above-ground.
							Below-ground.				Above-ground.				
			Worked by steam.	Not worked by steam.	Once.	Twice or more.	Adult males.	Adult females.	Children (under 12).	Total below-ground.	Adult males.	Adult females.	Children (under 12).	Total above-ground.	
							D.—LIMESTONE.								
Central Provinces.	Jubbulpur, Katni	18	...	18	18	...	645	463	43	1,151	410	489	43	942	2,093
Punjab	Hoshiarpur	1	...	1	...	...	30	...	...	30	15	...	...	15	45
	GRAND TOTAL (Limestone.)	**19**	**...**	**19**	**18**	**...**	**675**	**463**	**43**	**1,181**	**425**	**489**	**43**	**957**	**2,138**
							E.—SALT.								
Punjab	Shahpur	1	...	1	...	...	26	23	...	49	15	2	...	17	66
	Jhelum	2	...	2	...	...	521	425	64	1,010	58	...	...	58	1,068
	Mianwali	1	...	1	...	...	62	...	...	62	...	...	...	...	62
	GRAND TOTAL (Salt.)	**4**	**...**	**4**	**...**	**...**	**609**	**448**	**64**	**1,121**	**73**	**2**	**...**	**75**	**1,196**
							F.—GEMS.								
Burma	Mogok (Rubies, etc.)	5	5	...	...	...	153	...	...	153	1,640	...	...	1,640	1,793
							G.—SLATE.								
Bengal	Monghyr	10	...	10	...	...	50	...	...	50	115	50	...	165	215
Punjab	Gurgaon	2	...	2	...	...	34	...	18	52	154	...	25	179	231
	GRAND TOTAL (Slate.)	**12**	**...**	**12**	**...**	**...**	**84**	**...**	**18**	**102**	**269**	**50**	**25**	**344**	**446**
							H.—GOLD.								
Bombay	Dharwar	3	3	...	...	...	563	...	...	563	365	60	49	474	1,037
Madras	Nilgiris	1	...	1	1	...	18	...	...	18	12	1	...	13	31
	GRAND TOTAL (Gold.)	**4**	**3**	**1**	**1**	**...**	**581**	**...**	**...**	**581**	**377**	**61**	**49**	**487**	**1,068**
							I.—IRON ORE.								
Central Provinces.	Jubbulpur	1	...	1	...	...	20	...	...	20	12	10	...	22	42
Bengal	Singhbhum	3	...	3	...	...	...	...	...	...	111	300	...	411	411
	GRAND TOTAL (Iron Ore.)	**4**	**...**	**4**	**...**	**...**	**20**	**...**	**...**	**20**	**123**	**310**	**...**	**433**	**453**
							J.—MAGNESITE.								
Madras	Salem	1	...	1	1	...	25	35	...	60	15	30	...	45	105
							K.—GRAPHITE.								
Madras	Godavari	1	...	1	...	...	16	...	...	16	4	...	...	4	20
							L.—CORUNDUM.								
Madras	Salem	1	...	1	1	...	...	...	...	...	...	...	...	...	...
							M.—FULLER'S EARTH.								
Central Provinces.	Jubbulpur, Katni	1	...	1	1	...	* ...	...	...	...	...	...	...	...	...
							N.—COPPER.								
Central Provinces.	Jubbulpur	1	1	...	...	...	40	...	...	40	17	27	...	44	84
							O.—JADE.								
Burma	Myitkyina	3	...	3	...	...	489	...	...	489	596	...	...	596	1,085
							P.—STEATITE.								
Madras	. . . . .	1	...	1	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (All Mines.)	**640**	**220**	**420**	**105**	**95**	**46,782**	**21,830**	**1 339**	**69,951**	**23,306**	**11,813**	**4,517**	**39,636**	**109,587**

* Figures included with Limestone.

APPENDIX II—*contd.*

Table No. 2.

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mines Act, during the year 1905.

Province.	District and mineral field.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths.			Number of serious non-fatal accidents.	Number of persons seriously injured.			Death-rates per 1,000 persons employed.		
					Below-ground.	Above-ground.	Total deaths.		Below-ground.	Above-ground.	Total number of persons injured.	Below-ground.	Above-ground.	Below and above-ground.
			Tons. A.—COAL.											
Bengal	Hazaribagh, Giridih	10,555	829,271	4	4	...	4	13	10	3	13	·53	...	·38
	Manbhum, Jharia	28,967	3,070,588	19	21	1	22	13	12	3	15	1·10	·09	·75
	Do., Raniganj	2,320	224,876	1	...	1	1	2	1	1	2	...	1·52	·43
	Bankura, Do.	89	5,472	...	...	...	...	...	...	...	...	...	...	...
	Birbhum, Do.	31	2,475	...	...	...	...	...	...	...	...	...	...	...
	Burdwan, Do.	31,245	3,028,291	17	15	3	18	13	11	4	15	·71	·29	·57
	Santhal Parganas, Raniganj.	40	1,422	...	...	...	...	...	...	...	...	...	...	...
	Santhal Parganas, Rajmahal.	22	414	...	...	...	...	...	...	...	...	...	...	...
	Palamau, Daltonganj	752	71,294	...	...	...	...	2	2	...	2	...	...	...
	Sambalpur, Rampur	50	...	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	74,071	7,234,103	41	40	5	45	43	36	11	47	·79	·20	·60
Central Provinces.	Narsinghpur, Mohpani	680	22,998	...	...	...	...	1	1	...	1	...	...	...
	Chanda, Warora	979	123,163	...	...	..	...	5	2	3	5	...	...	...
	Chhindwara, Pench Valley	104	1,103	1	...	1	1	...	...	...	...	...	32·25	9·61
	TOTAL	1,763	147,264	1	...	1	1	6	3	3	6	...	1·39	·56
Punjab	Jhelum	1,936	61,618	2	1	1	2	4	3	1	4	·8	1·45	1·03
	Shahpur	62	239	...	...	...	...	...	...	...	...	...	...	...
	Attock	33	715	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	2,031	62,622	2	1	1	2	4	3	1	4	·77	1·36	·98
Assam	Lakhimpur	1,495	276,577	3	3	...	3	...	...	...	...	3·19	...	2·00
	Khasia and Jaintia Hills	47	450	...	...	...	...	...	...	...	...	...	...	...
	Sibsagar, Dikhu Valley	7	38	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	1,549	277,065	3	3	...	3	...	...	...	...	3·06	...	1·93
Baluchistan	Sibi, Khost	719	34,140	5	5	...	5	1	1	...	1	10·48	...	6·95
	Quetta, Sor Range	116	3,703	1	1	...	1	...	...	...	...	11·11	...	8·62
	Kalat, Mach and Digari	221	3,286	1	1	...	1	...	..	...	...	5·98	...	4·52
	Loralai	26	596	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	1,082	41,725	7	7	...	7	1	1	...	1	9·21	...	6·46
	GRAND TOTAL (COAL)	80,496	7,762,779	54	51	7	58	54	43	15	58	·94	·26	·72
			cwt. B.—MICA.											
Bengal	Monghyr	54	180	...	...	...	...	...	...	...	...	...	...	...
	Hazaribagh, Kodarma	5,251	9,640	2	2	...	2	1	...	1	1	·78	...	·38
	Gaya	817	4,721	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	6,122	14,541	2	2	...	2	1	...	1	1	·59	...	·32
Madras	Nellore	9,135	8,220	2	2	...	2	7	11	...	11	·38	...	·21
	Nilgiris	64	47	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	9,199	8,267	2	2	...	2	7	11	...	11	·38	...	·21
Rajputana	Ajmer-Merwara	260	2,740	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (MICA)	15,581	25,548	4	4	...	4	8	11	1	12	·45	...	·25
			Tons C.—MANGANESE ORE.											
Central Provinces.	Nagpur	1,904	101,262	1	2	...	2	2	...	2	2	1·36	...	1·05
	Bhandara	300	13,834	...	...	...	...	...	...	...	...	...	...	...
	Balaghat	362	26,563	...	...	...	...	1	...	1	1	a.	...	...
	TOTAL	2,566	141,659	1	2	...	2	3	...	3	3	1·02	...	·77

APPENDIX II—*contd.*

Table No. 2—*concld.*

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mines Act, during the year 1905—*concld.*

Province.	District and mineral field.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths. Below-ground.	Number of deaths. Above-ground.	Number of deaths. Total deaths.	Number of serious non-fatal accidents.	Number of persons seriously injured. Below-ground.	Number of persons seriously injured. Above-ground.	Number of persons seriously injured. Total number of persons injured.	Death-rates per 1,000 persons employed. Below-ground.	Death-rates per 1,000 persons employed. Above-ground.	Death-rates per 1,000 persons employed. Below and above-ground.
			C.—MANGANESE ORE—*contd.*											
			Tons.											
Madras	Vizagapatam	2,508	62,495	1	1	...	1	...	...	...	...	·71	...	·39
Bombay	Belgaum	48	40	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (MANGANESE ORE).	5,122	204,194	2	3	...	3	3	...	3	3	·89	...	·58
			D.—LIMESTONE.											
Central Provinces	Jubbulpur, Katni	2,093	92,170	1	...	1	1	...	...	...	...	...	1·06	·47
Punjab	Hoshiarpur	45	1,000	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (LIMESTONE).	2,138	93,170	1	...	1	1	...	...	...	...	...	1·04	·46
			E.—SALT.											
Punjab	Shahpur	66	5,374	...	...	...	...	...	...	...	...	...	...	...
	Jhelum	1,068	79,691	...	...	...	...	2	2	...	2	...	...	...
	Mianwali	62	9,013	...	...	...	...	1	1	...	1	...	...	...
	GRAND TOTAL (SALT)	1,196	94,078	...	...	...	...	3	3	...	3	...	...	...
			F.—GEMS.											
			Carats.											
Burma	Mogok	1,793	217,420	3	4	...	4	5	12	2	14	26·14	...	2·23
			G.—SLATE.											
			Tons.											
Bengal	Monghyr	215	216	...	...	...	...	2	1	1	2	...	...	...
Punjab	Gurgaon	231	2,313	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (SLATE)	446	2,529	...	...	...	...	2	1	1	2	...	...	...
			H.—GOLD.											
			Oz.											
Bombay	Dharwar	1,037	93	1	1	...	1	2	3	1	4	1·77	...	·96
Madras	Nilgiris	31	...	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (GOLD)	1,068	93	1	1	...	1	2	3	1	4	1·72	...	·93
			I.—IRON ORE.											
			Tons.											
Central Provinces	Jubbulpur	42	20	...	...	...	...	...	...	...	...	...	...	...
Bengal	Singhbhum	411	2,380	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (IRON ORE).	453	2,400	...	...	...	...	...	...	...	...	...	...	...
			J.—MAGNESITE.											
Madras	Salem	105	2,063	...	...	...	...	...	...	...	...	...	...	...
			K.—GRAPHITE.											
Madras	Godavari	20	63	...	...	...	...	...	...	...	...	...	...	...
			L.—CORUNDUM.											
Madras	Salem	...	...	...	...	...	...	...	...	...	...	...	...	...
			M.—FULLER'S EARTH.											
Central Provinces	Jubbulpur, Katni	...*	170	...	...	...	...	...	...	...	...	...	...	...
			N.—COPPER.											
Central Provinces	Jubbulpur	84	2	...	...	...	...	1	1	...	1	...	...	...
			O.—JADE.											
Burma	Myitkyina	1,085	134	...	...	...	...	...	...	...	...	...	...	...
			P.—FIRE-CLAY.											
Central Provinces	Chanda, Warora	..†	1,801	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (ALL MINERALS).	109,587	Tons. 8,164,660, Carats, 217,420 Ounces 93	65	63	8	71	78	74	23	97	·90	·20	·64

* Labour included with Coal Mines.
† " " " Limestone quarries.

APPENDIX II—*contd.*

Table No. 3.

The following table shows the average number of persons working daily in and about mines regulated by the Indian Mines Act during the years 1904 and 1905.

ALL MINES UNDER THE ACT.

Description of workers.	1904.	1905.	Difference.
	Below-ground.	Below-ground.	Below-ground.
Adult Males	48,893	46,782	−2,111
Adult Females	21,182	21,830	+ 648
Children under 12	1,435	1,339	− 96
TOTAL BELOW-GROUND	71,510	69,951	−1,559
	Above-ground.	Above-ground.	Above-ground.
Adult Males	21,427	23,306	+1,879
Adult Females	10,646	11,813	+1,167
Children under 12	3,799	4,517	+ 718
TOTAL ABOVE-GROUND	35,872	39,636	+3,764
TOTAL BELOW AND ABOVE-GROUND	107,382	109,587	+2,205

ALL COAL-MINES UNDER THE ACT.

Description of workers.	1904.	1905.	Difference.
	Below-ground.	Below-ground.	Below-ground.
Adult Males	38,497	37,107	−1,390
Adult Females	15,939	16,244	+ 305
Children under 12	1,118	735	− 383
TOTAL BELOW-GROUND	55,554	54,086	−1,468
	Above-ground.	Above-ground.	Above-ground.
Adult Males	16,954	16,907	− 47
Adult Females	7,845	7,959	+ 114
Children under 12	1,649	1,544	− 105
TOTAL ABOVE-GROUND	26,448	26,410	− 38
TOTAL BELOW AND ABOVE-GROUND	82,002	80,496	−1,506

APPENDIX II—*contd.*

Table No. 4.

The following table shows the fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act, 1901. The other minerals raised are gems, slate, iron ore, magnesite, graphite, clay, copper, jade, gold and fire-clay.

Year.	Coal.	Manganese Ore.	Mica.	Limestone.	Salt.
	Tons.	Tons.	Cwts.	Tons.	Tons.
1899 . .	4,622,242	87,126	10,860	1,177	78,754
1900 .	5,452,408	92,458	18,320	...	79,996
1901 . .	6,251,522	162,057	19,900	28,000	90,242
1902 . .	6,790,507	144,037	21,360	30,091	87,361
1903 . .	6,812,725	171,223	20,100	35,238	90,667
1904 . .	7,561,338	138,733	21,320	50,847	107,413
1905 . .	7,762,779	204,194	25,548	93,170	94,078

Table No. 5.

The following table shows the amount of coal raised, the average number of persons working daily, and the death-rates during the years 1899 to 1905 in respect of coal-mines under the Indian Mines Act.

Year	Amount of coal raised.	Average number of persons working daily below and above-ground.	Number of deaths below and above-ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 persons working daily below and above-ground.
1899 . .	4,622,242	65,795	73	15·79	1·11
1900 . .	5,452,408	80,003	52	9·53	·64
1901 . .	6,251,522	85,361	58	9·28	·67
1902 . .	6,790,507	89,505	59	8·69	·66
1903 . .	6,812,725	79,561	67	9·83	·84
1904 . .	7,561,338	82,002	55	7·27	·67
1905 . .	7,762,779	80,496	58	7·47	·72

Table No. 5A.

Statement showing the output of coal, the number of persons employed, and the number of tons of coal raised per person employed in and about the coal mines of the principal coal-producing countries of the world.

Year.	Countries.	Tons of coal raised.	Persons employed.	Tons raised per person employed.
1904	United Kingdom . .	232,428,272	833,629	279
,,	United States . . .	314,564,023	594,768	529
,,	Germany	166,773,263	543,479	307
,,	Austria	33,320,972	119,239	279
,,	France	33,628,112	171,792	196
,,	Belgium	22,401,799	138,567	162
,,	Nova Scotia . . .	5,247,135	11,659	450
,,	British Columbia . .	1,253,628	4,453	378
,,	Australia	6,853,224	14,034	488
,,	Natal	858,298	4,792	179
,,	Transvaal	2,409,033	8,558	281
1903	Japan	9,929,441	84,941	117
1902	Russia	16,205,675	105,688	153
	Totals and average .	845,872,875	2,635,599	321
905	British India . . .	7,762,779	80,496	96

ROYAL ASIATIC SOCIETY BOMBAY BRANCH

APPENDIX II—*contd.*

Table No. 6.

Fatal accidents and deaths in mines regulated by the Indian Mines Act, 1901, during the year 1905, classified according to the mineral worked.

Mineral.	Province and Mineral area.	Number of separate fatal accidents.	Number of Deaths.								
			Below-ground.				Above-ground.				Total below and above-ground.
			Adult males.	Adult females.	Children (under 12).	Total.	Adult males.	Adult females.	Children (under 12).	Total.	
Coal	Assam	3	1	2	...	3	...	...	...	...	3
	Baluchistan	7	7	...	...	7	...	...	...	...	7
	Bengal. Giridih	4	2	2	...	4	...	...	...	...	4
	Bengal. Jharia	19	18	3	...	21	...	1	...	1	22
	Bengal. Raniganj	18	11	4	...	15	4	...	...	4	19
	Total (Bengal)	41	31	9	...	40	4	1	...	5	45
	Central Provinces	1	...	...	...	...	1	...	...	1	1
	Punjab	2	1	...	...	1	1	...	...	1	2
	Total Coal	54	40	11	...	51	6	1	...	7	58
Mica	Bengal	2	2	...	...	2	...	...	...	...	2
	Madras	2	2	...	...	2	...	...	...	...	2
	Total Mica	4	4	...	...	4	...	...	...	...	4
Manganese Ore	Central Provinces	1	1	1	...	2	...	...	...	...	2
	Madras	1	1	...	...	1	...	...	...	...	1
	Total Manganese Ore.	2	2	1	...	3	...	...	...	...	3
Limestone	Central Provinces	1	...	...	...	...	1	...	...	1	1
Gems	Burma	3	4	...	..	4	...	...	...	...	4
Gold	Bombay	1	1	...	...	1	...	...	...	...	1
Grand Total All Minerals		65	51	12	..	63	7	1	...	8	71

APPENDIX II—*contd.*

Table No. 7.

Fatal accidents and deaths classified according to causes.

Causes of Accidents.	1905.				
		Deaths			
	Number of separate accidents.	Adult Males.	Adult Females.	Children (under 12).	Total.
BELOW-GROUND.					
Falls in Mines.					
Falls of roof	18	17	3	...	20
„ „ side	8	8	2	...	10
Total	26	25	5	...	30
In Shafts.					
Ropes and chains breaking	1	1	...	...	1
Whilst ascending or descending by machinery	3	3	...	...	3
Falling into shaft from the surface	2	2	...	...	2
Falling from a part of the way down	3	4	...	...	4
Things falling from surface	1	1	...	...	1
Miscellaneous	1	...	1	...	1
Total	11	11	1	...	12
Miscellaneous below-ground.					
By explosives	4	4	...	...	4
Haulage	11	8	3	...	11
Sundries underground	5	3	3	...	6
Total	20	15	6	...	21
Total below-ground	57	51	12	...	63
ABOVE-GROUND.					
By surface machinery	1	1	...	...	1
On surface railways and tramways belonging to the mine.	1	1	...	...	1
Miscellaneous on surface	6	5	1	...	6
Total above-ground	8	7	1	...	8
GRAND TOTAL	65	58	13	...	71

APPENDIX II—*contd.*

Table No. 8.

Mines opened and closed during the year ending 31st December 1905.

Province.	District.	Number of mines opened.	Number of mines closed.
	A.—COAL.		
Bengal	Hazaribagh, Giridih	...	1
	Manbhum, Jharia	...	12
	„ Raniganj	...	4
	Burdwan, „	5	6
	Santhal Parganas, Rajmahal	1	1
	Sambalpur	...	2
Total		6	26
Punjab	Shahpur	2	...
	Jhelum	...	7
Total		2	7
Baluchistan	Loralai	1	...
Central Provinces	Chhindwara	1	...
Total (Coal)		10	33
	B.—MICA.		
Bengal	Monghyr	...	2
	Hazaribagh	115	50
Total		115	52
Madras	Nellore	44	12
Rajputana	Ajmer-Merwara	1	5
Total (Mica)		160	69
	C.—MANGANESE ORE.		
Madras	Vizagapatam	2	...
Central Provinces	Nagpur	8	...
Total (Manganese)		10	...
	D.—LIMESTONE.		
Central Provinces	Jubbulpur	4	2
	E.—SALT.		
Punjab	Mianwali	3	3
	F.—GOLD.		
Madras	Nilgiris	1	1
Bombay	Dharwar	2	...
Total (Gold)		3	1
	G.—IRON ORE.		
Central Provinces	Jubbulpur	1	...
	H.—GRAPHITE.		
Madras	Godavari	...	1

Table No. 9.

Statement of Prosecutions instituted under the Indian Mines Act (VIII of 1901), during the year ending 31st December 1905.

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number convicted.	Remarks.
Bengal	Manbhum	2	3	2	

APPENDIX II—*concld.*

Table No. 10.

Number of Inspections by District and other Officers, 1905.

District and Mineral Area.	Number of mines inspected.		
	Once.	Twice.	More than twice.
COAL.			
Bengal—			
Birbhum } Raniganj	...	1	...
Burdwan } Raniganj	1	1	...
Hazaribagh, Giridih	...	1	...
Palamau, Daltonganj	1	...	...
	2	3	...
Assam—Khasia and Jaintia Hills	1	...	...
Central Provinces—Narsinghpur	1	...	...
„ „ Chhindwara	1	...	...
	2	...	...
Baluchistan—Kalat	1	...	...
„ Quetta	1	...	...
„ Loralai	...	...	1
	2	...	1
TOTAL AT COAL MINES	7	3	1
MICA.			
Madras—Nellore	26	8	2
Rajputana—Ajmer-Merwara	1	...	...
TOTAL AT MICA MINES	27	8	2
MANGANESE ORE.			
Madras—Vizagapatam	1	...	...
Central Provinces—Nagpur	5	1	...
TOTAL AT MANGANESE MINES	6	1	...
LIMESTONE.			
Central Provinces	13	4	...
SALT.			
Punjab—Jhelum	2	...	...
GEMS.			
Burma—Ruby Mines District	4	...	...
GOLD.			
Bombay—Dharwar	3	...	...
IRON ORE.			
Bengal—Singhbhum	1	...	...
Central Provinces—Jubbulpur	1	...	...
TOTAL AT IRON MINES	2	...	...
MAGNESITE.			
Madras—Salem	...	1	...
GRAPHITE.			
Madras—Godaveri	...	1	...
GRAND TOTAL	64	18	3

APPENDIX III.

Table No. 1.

Inspections and enquiries made under Section 5 of the Land Acquisition (Mines) Act, 1885; during the year ending 31st December 1905.

Name of mine, and description of land acquired.	Name of owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
1. Bansjora Coal Mine— Sitarampur-Katrasgarh Branch of the East Indian Railway, and portion of the Sendra assisted siding which takes off that branch near mile 173.	Bansjora Coal Co.	10th March, 1905	G. F. Adams.
2. Jamadoba Coal Mine— No. 1 siding of the Bengal-Nagpur Railway Company.	Indian Collieries Syndicate, Ld.	29th May, 1905	W. H. Pickering.
3. Loyabad Coal Mine— Loyabad siding of the East Indian Railway.	Barakar Coal Co., Ld.	4th May, 1905	Ditto.
4. Tetturia Coal Mine— Tetturia North siding, and the Jumoni Branch of the East Indian Railway.	Tetturia Coal Syndicate.	27th April, 1905	Ditto.
5. Chanch Coal Mine— Chanch Branch of the East Indian Railway, at about mile 146¼ from Calcutta.	Bengal Coal Co., Ld.	12th June, 1905	James Grundy.
6. Salanpur Coal Mine— Salanpur Branch of the East Indian Railway, at about mile 141.	Borrea Coal Co., Ld.	23rd October, 1905	Ditto.
7. Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway, at 177 miles and 2 furlongs, and assisted siding.	C. J. Smith	2nd August, 1905	Ditto.
8. Kusunda Coal Mine— Damuda Branch of the East Indian Railway, at about mile 173.	J. K. Roy	4th October, 1905	Ditto.
9. Murulidih Coal Mine— Bengal-Nagpur Railway line, at Mohoda.	Finlay, Muir & Co.	22nd July, 1905	W. H. Pickering.
10. Kurkend Coal Mine— Midnapur-Jharia line of the Bengal-Nagpur Railway, at about mile 206.	New Kurkend Coal Syndicate, Ld.	.....	James Grundy and G. F. Adams.
11. Khoira and Bulliari Coal Mine— Khoira Branch of the East Indian Railway.	East Indian Coal Co., Ld.	30th September, 1905	James Grundy.
12. Mouzra Coal Mine— Ondal loop of the East Indian Railway, at about mile 124, and near Toposi.	Basanti Oakdene Coal Co.	3rd November, 1905	Ditto.
13. Noonoodih Coal Mine— Bengal-Nagpur Colliery siding (loop for group No. 1).	Bengal Iron and Steel Co., Ld.	25th November, 1905	W. H. Pickering.
14. Katras Coal Mine— Bengal-Nagpur Railway Company's Katras-Malkeera connection.	Nowagarh Coal Co., Ld.	18th September, 1905	Ditto.
15. Nimcha Coal Mine— Main line, East Indian Railway.	Sircar and Barnard	Inspected but no action taken as it was found that the mineral rights in the land were vested in the Railway Company, *vide* letter No. 3113 T. R., dated 15th September, 1905, from Bengal, Revenue Department, Land Revenue Branch.	James Grundy.
16. Kankani Coal Mine— Kankani assisted siding of the East Indian Railway.	Eastern Coal Co., Ld.	23rd October, 1905	W. H. Pickering

APPENDIX III—*contd.*

Table No. 1—*concld.*

Inspections and enquiries made under Section 5 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December, 1905—*concld.*

Name of mine, and description of land acquired.	Name of owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
17. Choitodih Coal Mine— East Indian Railway Company's siding.	Lutchipur Coal Co., Ld.	4th December, 1905	W. H. Pickering.
18. Angapathra Coal Mine— Jharia extension of the East Indian Railway.	J. N. Srimani	Inspected, but not surveyed, owing to workings being water-logged. Will have to be reinspected.	Ditto.
19. Bhalgora Coal Mine— Bhalgora siding.	Bhalgora Coal Co., Ld.	.....	G. F. Adams.
0. Dhoondabad Coal Mine— Assisted siding which takes off from the Salanpur Branch of the East Indian Railway.	New Manbhum Coal Co., Ld.	.....	James Grundy.
21. Kusunda-Nayadi Collieries— Alkusa siding taking off from the Damuda Branch of the East Indian Railway at mile 172—1,077 feet from Calcutta.	Kusunda and Nayadi Collieries, Ld.	.....	G. F. Adams.

Table No. 2.

Inspections and enquiries made under Section 11 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December, 1905.

Name of mine, and description of land acquired.	Name of owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
1. Phularibad Coal Mine— Surataur siding of the East Indian Railway.	Khas Jharia Coal Co.	.....	G. F. Adams.
2. Jharia Khas (Benahir) Coal Mine— Surataur siding of the East Indian Railway.	Standard Coal Co., Ld.	.....	James Grundy.
3. Alkusa Coal Mine— Damuda Branch of the East Indian Railway, and certain assisted sidings.	Raniganj Coal Association, Ld.	.....	Ditto.
4. Kusunda and Nayadi Coal Mine— Kustore siding and the Damuda Branch of the East Indian Railway.	Kusunda and Nayadi Collieries, Ld.	28th November, 1905	Ditto.
5. Panchgatchia Coal Mine— Panchgatchia assisted siding and the main line of the Ikra Branch, East Indian Railway, at a point near mile 137.	Lutchipur Coal Co., Ld.	.....	Ditto.
6. Dobari Coal Mine— Dhanbaid-Jharia chord line, near its junction with the Kusunda-Jharia Branch of the East Indian Railway.	R. N. Bagchi	.....	W. H. Pickering.
7. Surataur Coal Mine— Surataur siding of the East Indian Railway.	P. K. Roy	4th September, 1905	Ditto.
8. Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway, at 177 miles and 2 furlongs, and assisted siding.	C. J. Smith	.....	James Grundy.
9. Brahmanbarari Coal Mine— Extension of the Joyrampur siding of the East Indian Railway.	East Indian Coal Co., Ld.	.....	G. F. Adams.
10. Lodna Coal Mine— Bhaga Branch of the East Indian Railway, in mouzahs Lodna and Puddyadihi.	Lodna Colliery Co., Ld.	.....	Ditto.

APPENDIX III—*contd.*

Table No. 3.

List of plans of abandoned and discontinued mines received during the years 1904-05.

Registered number.	Name and situation of mine.	Name or number of seam.	Name of mineral worked.	Name of owner.	Date of abandonment or discontinuance.	Cause of abandonment or discontinuance.
1	Ranadhanga Mine, Charanpur, Burdwan, Bengal.	Rana seam	Coal	Apcar & Co.	5th. October, 1904	Inferior coal.
2	Sankjora Mine, Salanpur, Burdwan, Bengal.	B. seam	Do.	Borrea Coal Co., Ld.	September, 1901	Seam too thin to pay.
	Rampur Mine, Rampur, Burdwan, Bengal.	Do.	Do.	Ditto	May, 1904	Ditto.
	Moochepara Mine, Salanpur, Burdwan, Bengal.	D. seam	Do.	Ditto	February, 1900	Inferior coal.
3	No. 5 Incline, Bhowra Mine, Ghoorkhoonti, Jharia, Manbhum, Bengal.	Probably No. 13 seam.	Do.	Eastern Coal Co., Ld.	October, 1902	Ditto.
4	Bhuskajuri Mine, Bhuskajuri, Burdwan. Bengal.	Joyramdanga top seam.	Do.	Bhuskajuri Coal Co., Ld.	22nd July, 1904	Ditto.
5	No. 1 Incline and Nos. 2, 3 and 5 Pits, Begunia Mine, Begunia, Burdwan, Bengal.	Begunia seam	Do.	Laik and Banerji	May, 1903	Coal weathered and water-marked; and working unprofitable.
6	Parathdih Hill Inclines, Serampur Mine, Giridih, Hazaribagh, Bengal.	Bhadoah Upper seam.	Do.	East Indian Railway Co.	March, 1905	Inferior coal.
7	Khandiha Nos. 1 and 2 Inclines, Serampur Mine, Giridih, Hazaribagh, Bengal.	Bhadoah Lower seam.	Do.	Ditto	Ditto	Ditto.
8	Choto Dhemo Mine, Choto Dhemo, Burdwan, Bengal.	Choto Dhemo-Dishargarh seam.	Do.	Rai R. B. Chatterji, Bahadur.	3rd January, 1903	Owing partly to a large part of the mine subsiding, and partly to an order from the landlord.
9	Utarda Mine, Utarda, Raniganj, Manbhum, Bengal.	Nawadiha seam.	Do.	Ditto	June, 1905	Pecuniary reasons.
10 and 10A	Nos. 10A and 10B Shafts, Bhadoah Hill, Kurhurbari Mine, Giridih, Hazaribagh, Bengal.	Bhadoah Upper and Lower seams.	Do.	East Indian Railway Co.	June, 1904	Inferior coal.
11	Begunia Mine, Begunia, Burdwan, Bengal.	Begunia seam	Do.	J. N. Mukherji	Ditto	Unprofitable and dangerous owing to water in the rise-workings.

APPENDIX III—*contd.*

Table No. 3—*concld.*

List of plans of abandoned and discontinued mines received during the years 1904-05.

Registered number.	Name and situation of mine.	Name or number of seam.	Name of mineral worked.	Name of owner.	Date of abandonment or discontinuance.	Cause of abandonment or discontinuance.
12	Nos. 1 and 2 Inclines, Murulidih Mine, Murulidih, Jharia, Manbhum, Bengal.	Middle seam .	Coal .	Finlay, Muir & Co.	15th May, 1905 .	Inferior coal.
13	No. 6 Incline, Murulidih Mine, Murulidih, Jharia, Manbhum, Bengal.	Upper seam .	Do. .	Ditto .	12th June, 1905 .	Ditto.
14	No. 2 Incline, Chanch Mine, Chanch, Manbhum, Bengal.	Chanch seam .	Do. .	Bengal Coal Co., Ld.	16th August, 1905 .	Mine worked out.
15	Barwadi Mine, Giridih, Hazaribagh, Bengal.	Lower seam .	Do. .	K. R. Missra and R. D. Taw.	June, 1905 . .	Worked out and subsided.
16	Filgate Pit, Kendwa Mine, Kendwa, Burdwan, Bengal.	Begunia seam	Do. .	Bengal Iron and Steel Co.	12th August, 1905 .	Area exhausted.

Table No. 4.

Exemptions of certain mines from the operation of the Indian Mines Act, 1901, by the Governor-General in Council.

Date of exemption.	District.	Province.	Description of mine.
12th June, 1901 .	...	Bombay . . .	All kankar, stone and laterite quarries, being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901.
17th July, 1901 . .	..	Madras . . .	All kankar, stone and laterite quarries, being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901, subject to the condition that the exemption hereby notified shall cease to apply to any such quarry as aforesaid if and when the Local Government, by order in writing, declares it to be worked in such a manner as to render its further exemption to be inexpedient.
23rd July, 1901 . .	...	Central Provinces .	All clay-pits, and metal, moorum and stone quarries, no substantial part of which extends beneath the superjacent ground, such pits and quarries being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901. Provided that the exemption, hereby conferred, shall cease to apply to any pit or quarry the further exemption of which the Chief Commissioner may, by general or special order, declare to be inexpedient.
10th October, 1901 .	Ajmer-Merwara . .	Rajputana . . .	All stone quarries being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901.

APPENDIX III.—*contd*

Table No. 4—*concld.*

Exemptions of certain mines from the operation of the Indian Mines Act, 1901, by the Governor-General in Council—*concld.*

Date of exemption.	District.	Province.	Description of mine.
11th October, 1901	...	Lower Provinces, Bengal	All kankar, stone or laterite quarries no substantial part of which extends beneath the superjacent ground, such quarries being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901. Provided that the exemption, hereby conferred, shall cease to apply to any quarry the further exemption of which the Lieutenant-Governor may, by general or special order, declare to be inexpedient.
25th October, 1901	Kohat	Punjab	All salt quarries being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901.
15th November, 1901	Mirzapur District, Kumaon Division.	United Provinces	All kankar, stone or laterite quarries, being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901, in the stone mahals.
29th April, 1902	Kot Jhungra village, Mardan Tahsil, Peshawar District.	North-West Frontier Province.	The stone quarries, being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901.
Ditto	Abbottabad Tahsil, Hazara District.	Ditto	The carbonaceous clay-pits, being "mines" within the meaning of Section 3 (*d*) of the Indian Mines Act, 1901.

Table No. 5.

THE MINING-CLASSES.

Sibpur College.

General explanation.—The Mining-Classes are designed to afford theoretical training in the principles of Mining generally, to prepare students for positions of responsibility in Coal or Metal Mines, and, in the case of students attending for instruction in Coal Mining, to qualify them to appear for the Examinations of Mines Manager as required by the Indian Mines Act.

The course at Sibpur for *regular* Mining students will extend over four years, admissions to advanced standing, of students from other Provinces, being made to the second and third year classes upon the students producing evidence of having received at one of the Government Engineering Colleges technical training of an equivalent value.

The rules for *regular* Mining-students have not yet received sanction.

The specialised instruction in Mining at Sibpur is given in the third and fourth years of the College course.

Prospective students in either Coal or Metal Mining are referred to the provisional syllabus given in Appendix A. This is subject to modification.

Occasional students may take either course, or both with special permission.

Occasional students.—It is proposed, as an experiment, to admit, in February 1906-1907, as students to the third and fourth years' course such men, at present employed upon Mines, as may wish to take advantage of this opportunity of increasing their technical knowledge of Mining, and of gaining a Mining Diploma.

No one will be admitted as an *occasional student* who has not spent at least two years in *bonâ fide* employment upon a Mine.

There will be no limit of age for *occasional students*.

A candidate for admission to the Mining Class as an *occasional student* must apply to the Principal before February 15th, and must submit—

(*a*) A statement of his general educational qualifications, supported by school or other certificates.

(*b*) A statement showing the nature and extent of his employment upon Mines, and the period thereof, supported by certificates from the Mine Managers under whom he has worked.

Occasional students—Must pass all College Test Examinations, and may appear at the Diploma Examinations held at the end of the course.

There being no house accommodation available at Sibpur College, *occasional students* must make their own arrangements. The College hours are from 8 A.M. to 4 P.M. daily. Students will be provided, if desired, with a mid-day meal at a low charge.

APPENDIX III—*contd.*

Table No. 5—*contd.*

The following will be the fees payable by *occasional students*:—

1. Admission fee, ₹10, which will not be returned.
2. Caution money, ₹5, which will be returned on leaving the College, after deduction of any College dues owing.
3. Tuition fee for either Coal or Metal Mining, ₹10 monthly for twelve months in the year.

Tuition fee for both courses, ₹15.

Mid-day meal, ₹10 monthly (except vacations).

SIBPUR ENGINEERING COLLEGE.

SYLLABUS OF SPECIAL MINING-COURSES.

Course I.

Geology applied to Mining.—(One lecture per week.)
(For Coal and Metal Mining-students).

Classification of rocks; characteristic fossils and economic products of the principal systems.

Structure of rocks; folding, faults, cleavage, formation of mineral veins.

Principles of geological surveying; methods employed in constructing geological maps and sections. Special reference to the geology of India.

Mining Engineering.—(Two lectures per week.)
(For Coal and Metal Mining-students.)

Boring by hand and power machines.

Sinking and lining shafts; various methods employed in special cases.

Systems of haulage, underground and aboveground, aërial ropeways.

Hoisting, headgear, ropes, safety appliances.

Mining legislation.

Section A.—(For Coal Mining students only.)
(One lecture per week.)

Methods of working coal; shaft pillars, preliminary work, and various methods of working the seams. Special reference to Thick Coal working as practised in England and different parts of the world.

Shot-firing; coal-cutting by machinery.

Surface subsidence and under-sea working.

Timbering and other supports.

Coal Mine plans and sections, connecting surface and underground surveys.

Section B.—(One lecture per week.)
(For Metal Mining-students only.)

Prospecting for, and methods of working mineral veins.

Alluvial Mining, and open workings.

Hydraulic Mining, dredging for gold; ore-beds and deep leads; overhand and underhand stoping.

Hand and power drilling; blasting; timbering.

Metal Mine plans.

Course II.

Descriptive Mineralogy.—(One lecture per week.)
(For Coal and Metal Mining-students.)

Physical properties of minerals; description of various ores and fuels; methods of determination.

Prospecting operations.

Mining Engineering.—(Two lectures per week during first-half of session.)
(For Coal and Metal Mining-students.)

Drainage of Mines; adit levels; pumping machinery; dams; boring against old workings.

Ventilation of Mines; natural and artificial ventilation; splitting and regulating air-currents; types of fans; water-gauge and anemometer.

Power-application in a Mine; discussion of relative merits of steam, water, compressed air, electricity, and oil, as sources of applied power.

Section A.—(One lecture per week during second half of session.)
(For Coal Mining-students only.)

Description of gases found in Coal Mines; colliery explosions; safety-lamps; instruments for detecting fire-damp; treatment of men overcome by foul air.

APPENDIX III—*concld.*

Table No. 5—*concld.*

Arrangement of surface works at a colliery; sorting and screening coals; coal-washing, briquette-making, coking, and bye-products.

Section B.—(One lecture per week during second half of session.)

(For Metal Mining-students only.)

Surface works of Metal Mines, sorting, crushing, sizing, and concentration of various ores. Modern ore-dressing machinery, and slime-tables.

Special reference to treatment of gold, silver, copper, lead and zinc.

Cyanide and chlorine treatment of slimes.

Mine-Surveying.—There will be, each year, a period of from three to four weeks devoted to practical surveying in a Mining-district, in which it is hoped to include the actual underground survey of a Mine.

CIRCULAR No. 282.

EAST INDIAN RAILWAY.

AGENT'S OFFICE.

Calcutta, 29th April 1905.

PRECAUTIONS AGAINST PLAGUE.

Of the various schemes that have been put into operation for the eradication of Plague the most successful appears to be that which has for its object the extermination of rats; and the introduction of this process at the Company's Collieries at Giridih having been attended with the most gratifying results, I desire that it may be extended elsewhere, as an experimental measure, at some selected station in each district where Plague is prevalent.

2. The following is a summary of the measures adopted at Giridih, and are those which should be adopted as far as local conditions allow :—

i. The rats are brought in the cages in which they are caught twice a day, morning and evening.
ii. The cages containing the rats are then completely immersed in water and perchloride of mercury kept in a wooden cask.—This drowns the rats, and disinfects the cages. This operation is done near a large fire—a boiler furnace for preference, one being always at hand on the Collieries.
iii. Rough wooden boxes are provided of sufficient size to contain up to 24 rats. One of these boxes is placed on a shovel in front of the fire.—A little jute is placed in the box, for the fleas to nestle on, as it has been found that the fleas are more difficult to drown than the rats are, and as they leave the cold body of the drowned rat, and to prevent them hopping on to the persons handling the cages, jute is placed there to attract them.
iv. The cages are then taken out of the perchloride solution. The door at one end of the cage is opened, and the rats dropped into the wooden box, and, with as little delay as possible, the box containing the dead rats and fleas is thrown into the fire.
v. The cage is then baited and handed over to be used again.
vi. Handling of the rats is strictly prohibited.

3. The main precaution to be observed is to ensure that both rats and their fleas shall be promptly destroyed on their submersion in the perchloride of mercury bath, the strength of which should be 5 drachms in 2 gallons of water. No acid should be used, as it would corrode the rat traps. In carrying out the proposed experiments the local District Traffic Officers and others concerned should act in co-operation with the District Medical Officers.

4. The Controller of Stores will supply the necessary rat traps.

J. DOUGLAS,
Agent.

APPENDIX IV.

INDIAN MINES ACT, 1901.

DRAFT SPECIAL RULES.

Province of Bengal.

Special Rules established under the Indian Mines Act, 1901, for the control and guidance of the persons acting in the management of, or employed in or about coal-mines.

Indian Mines Act, 1901.

... ... Mine,
belonging to ... ...

Special Rules.

For the control and guidance of the persons acting in the management of, or employed in or about the mine; to prevent accidents, and to provide for the safety, convenience and discipline of the persons employed in or about the mine, pursuant to Section 21 of the Indian Mines Act, 1901.

Definitions.

I.—In these rules "the Act" means the Indian Mines Act, 1901.
II.—"General Rule" means any rule made under Section 20 of the Act.
III.—"Manager" means the person referred to as manager in Section 13 of the Act.
IV.—"Undermanager" means a person appointed to assist the manager, and superior to all other officials.
V.—"Mine" has the same meaning as given in Section 3 (*d*) of the Act.

Rules for General Application.

1.—The special rules shall be observed by every person in or about the mine, so far as is reasonably practicable.

2.—Every person shall strictly obey all lawful orders of the officers of the mine, and of the person in whose charge he is placed.

3.—No person in a place of trust shall depute another person to do his work without the sanction of his superior officer; and no person in a place of trust shall absent himself without legitimate cause, or without having previously obtained permission from his superior officer for the term of his absence.

4.—No person shall do any act likely to endanger his own safety, or the safety of any person, or of the mine.

5.—No person shall damage, destroy, or improperly interfere with anything provided for or used in the working of the mine.

6.—No person, either above or below ground, shall remove or pass through any fence, or remove or pass any danger signal, unless authorised by the manager or other official.

7.—Every person in charge of any machinery, apparatus, or appliance used in and about the mine shall immediately report any defect or dangerous condition thereof, which he may observe, to the manager, under-manager or engine-wright.

8.—No intoxicating drink shall be allowed or used in or about the mine without the consent of the manager; and no person in a state of intoxication shall enter or be allowed to remain in or about the mine.

9.—No person shall get on or off the cage, skip or tub, used for raising or lowering persons, after the signal to go on has been given, or until it has settled on the keps, or reached the top, bottom, or other appointed stopping-place.

10.—No person shall take with him, up or down the shaft, any tools or bulky materials, except when engaged in repairing the shaft, or when permitted by the manager.

11.—No person shall ride in the shaft with or against a loaded tub or bucket.

12.—Every person when underground in the mine shall carry a light, or be accompanied by a person carrying a light.

13.—No person shall work in any place other than the one indicated to him, or in which he has been ordered to work by an official of the mine, or by a person in whose charge he has been placed by an official of the mine.

14.—No person shall ride upon any tub, truck or wagon, either above or below ground, without permission of the manager.

15.—No person shall wilfully kindle a "feeder," or an accumulation, of gas.

16.—Every person shall examine his own working-place before commencing work, and at intervals during the shift. If any danger is discovered he shall either remedy it, or leave the place, and report the fact to an official of the mine.

17.—No person shall leave a light or fire in any underground part of the mine unless it is left in the care of some person remaining therein.

18.—No person shall cut coal from any pillar unless specially authorised to do so by the manager, under-manager, or other official.

Manager.

19.—The manager is responsible under Section 13 (2) of the Indian Mines Act, 1901, for the superintendence of all parts of the mine under his charge.

20.—He shall take all reasonable means for carrying out the requirements of the Act and Rules made under the Act, by publishing and, to the best of his power, enforcing them.

21.—He shall appoint, in writing, the competent persons necessary for carrying out the requirements of the Act, and shall assign them their duties, and shall give each of them a copy of the Special Rules on appointment.

22.—He shall be responsible for seeing that the following codes of shaft and incline signals, to be observed by those concerned, are printed and posted in conspicuous places where they may be conveniently read by the persons giving the signals.

Code of Shaft Signals.

Code of Incline Signals.

23.—He shall decide what is the greatest number of persons to be allowed to ride in the cage, tub, or skip at any one time, and shall cause the authorised number to be printed on a board, and placed on the pit frame and in every inset.

24.—He shall decide, from time to time, what kind of explosives shall be used in the mine, and the methods of firing.

25.—He shall see that a sufficient number of safety-lamps is provided for use when necessary, and also that there is a proper and sufficient supply of report-books, appliances, and things required by the Act or by Rules made under the Act.

26.—He shall see that all inspections and reports, required by the Act or by Rules made under the Act, are regularly and faithfully made and recorded by the respective officers and competent persons appointed for the purpose.

27.—He shall fix the positions of the stations required by General Rules 4 and 17, and shall cause them to be indicated by a printed notice of the words "Station" or "Lamp station," in English and in the vernacular of the district.

28.—When the winding-engine is not provided with some automatic contrivance to prevent over-winding he shall fix and cause to be marked on the indicator of the winding-engine, the point (mentioned in General Rule 25) at which, when persons are being raised, the cage, skip, bucket, or tub shall not be wound up at a speed exceeding three miles an hour after it is within twice the circumference of the drum from the surface.

29.—He shall see that proper stop-blocks are fixed at the tops of all inclines, and also that additional blocks or runaway switches are fixed below the first blocks at a greater distance than the length of a train of tubs.

Under-manager.

30.—The under-manager shall have charge, under the manager, of such underground and surface works as may be ordered from time to time by the manager.

31.—The under-manager shall see that the officials appointed to carry out the requirements of the Act or the General or Special Rules, regularly and faithfully discharge their duties.

32.—During the absence of the manager the under-manager shall (so far as the Act or General or Special Rules permit) have the same responsibility, discharge the same duties, and be subject to the same liabilities as the manager; but this shall not affect the personal responsibility of the manager.

Colliery-Surveyor.

33.—He shall make such accurate surveys and levellings as the manager may direct, or as may be required by the Act or Rules made under the Act, and shall accurately plot them on the plans with reasonable despatch.

34.—He shall call the attention of the manager to any contravention of the Act or of Rules made under the Act as regards plans and sections.

Overman, Deputy-Overman, Competent Person, and Sirdar.

35.—He shall have responsible charge and control of the part of the mine assigned to him by the manager or under-manager.

36.—When he has been appointed "competent person," under General Rule 4, he shall, once at least in every 24 hours, inspect every part of his district in which any person has to work or pass, and when his district has been unworked for 24 hours he shall make an inspection within two hours before any person is allowed to pass the station appointed by the manager.

37.—When he has been appointed "competent person," under General Rule 2 (*g*), he shall, once at least every week, examine the state of the shafts by which persons ascend or descend, and the state of the guides and conductors in the shafts.

38.—He shall write or cause to be written in the book kept for the purpose the reports of the results of his inspections required by General Rules 2 (*g*) and 4.

39.—He shall see that sufficient supplies of timber, appliances, and things required for the safe working of the mine are kept in convenient places at the mine, and shall report any deficiency to the manager in writing.

40.—He shall see that all stoppings, brattices, doors, air-crossings, stop-blocks, fences, and other appliances and things are kept in proper order and maintained.

41.—He shall cause the entrance to any place which is not in actual use or course of working and extension to be properly fenced across the whole width.

42.—He shall see that the roof and sides of all travelling-roads and working-places are made and kept secure.

43.—He shall see that the manholes on the engine-planes are within the distances and of the dimensions prescribed by General Rule 8, and that they are kept clear and in proper condition.

44.—He shall, without delay, personally inspect any part of his district reported to him to be unsafe or in any way requiring his attention, and shall cause any defect or danger to be remedied without delay.

45.—If he finds the mine or any part thereof dangerous, as defined by General Rule 5, he shall withdraw the men from the mine or part thereof so found dangerous, and make a true report in accordance with General Rule 5, and shall carry out the provisions of that rule as regards readmitting the workmen.

46.—He shall see that drags or backstays are provided, and are regularly used behind tubs ascending inclines.

47.—He shall point out or indicate their working-places to the work-people under his charge, and if he finds any person in a place other than the one assigned to him, he shall order such person out of the mine, and report the matter to the manager or under-manager.

48.—He shall not leave the mine until he has finished the inspection or inspections required by General Rule 4, or until relieved by a duly appointed substitute.

49.—He shall examine every safety-lamp before it is taken into his district, to ascertain that it is securely locked and in proper order.

50.—He shall see that the provisions of General Rule 13 and of any Special Rules as regards the use of explosives are strictly observed in the district under his charge.

51.—At the close of each day's work he shall see that all persons leave the portion of the mine assigned to him, but should it be necessary for any of them to remain, he shall arrange that such persons are under the charge of a competent person, and shall see that all unnecessary lights are extinguished.

Mechanical Engineer or Enginewright.

52.—He shall have charge of the whole of the machinery and plant both on the surface and underground in the district or part of the mine to which he is appointed.

53.—He, or some other competent person appointed for the purpose, shall, once at least in every 24 hours, examine the state of the external parts of the machinery and of the ropes, chains, and other similar appliances of the mine which are in actual use both above and below ground, and shall write or cause to be written and recorded in a book kept for the purpose the result of such examination.

54.—He shall see that all signals, machinery, fittings and mechanical appliances, required by the Act or by any Rule made under the Act, are properly fixed and maintained.

55.—He shall see that all dangerous and exposed parts of the machinery, and also the tops of working-, ventilating- or pumping-shafts are properly and securely fenced.

56.—He, or some competent person appointed for the purpose, shall see that the winding-ropes are recapped once at least every 6 months, and oftener if necessary.

Winding Engineman (Shafts & Inclines).

57.—He shall examine the engines, boiler-fittings, and signals, before commencing work, to see that they are in proper working order.

58.—When men are being raised in a shaft, where the winding-apparatus is not provided with some automatic contrivance to prevent overwinding, he shall not wind up the cage at a speed exceeding three miles an hour after it has passed a point in the shaft fixed by the manager, and marked on the indicator.

59.—He shall strictly obey the orders of the banksman as regards signals.

60.—He shall not allow any unauthorised person to enter the engine-house, or in any way interfere with the engine.

61.—He shall thoroughly understand the signals in use, and attend to them, and, on no account, start his engine until he has received the proper signal. If the signal is indistinct he shall not start his engine until it has been repeated and he clearly understands it.

62.—He shall not leave the handles or brake whilst the engine is in motion.

63.—If the cages have been standing for two hours or longer, he shall run them once up and down the shaft before allowing men to ride.

Boiler-Fireman.

64.—He shall see that the water is maintained in the boiler at the proper level.

65.—He shall keep the boiler-fittings clean.

66.—He shall not alter the lever nor the weight of a safety-valve, nor allow the pressure of any safety-valve to be altered without authority from the manager, under-manager or engine-wright.

67.—He shall frequently test the water-gauge and test-cocks, and shall report any defect to the manager, under-manager, or enginewright.

68.—He shall open the blow-off cock for one minute once a day, or as often as ordered.

Banksman and Onsetter.

69.—Subject to the orders of their superior officers, the banksman and onsetter shall have full control of the pit-top and pit-bottom, respectively.

70.—The banksman and onsetter shall learn and carefully observe the prescribed code of shaft-signals.

71.—The banksman and onsetter shall not allow more than the authorised number of persons to ascend or descend at any one time.

72.—The banksman and onsetter shall not, unless permitted by the manager, allow any person to take up or down the shaft any tools or bulky materials except when engaged in repairs in the shaft.

73.—The banksman and onsetter shall not leave their respective posts at the pit-top or pit-bottom whilst men are being raised or lowered in the shaft.

74.—The banksman shall see that the top of the shaft is securely covered or fenced when operations have ceased or been suspended.

75.—The banksman shall keep the pit-top or banking-stage free from loose material likely to fall into the shaft.

Safety-lamps.

76.—Every safety-lamp for use in the mine must be provided by the owner, and be approved by the manager.

77.—No lamp or light other than a locked safety-lamp shall be allowed or used, whether required by the Act or not, when the use of locked safety-lamps has been ordered by the manager.

78.—The manager shall appoint a person to examine and lock all safety-lamps for use in the mine, and no person except such authorised person shall either take himself or give out for use any safety-lamp.

79.—No person shall have in his possession for use in the mine any unlocked safety-lamp or any safety-lamp so defective or insecure that reasonable observation by him could have detected such defect or insecurity.

80.—No person shall wilfully damage or improperly use, or by improper means extinguish any safety-lamp, and no one except a duly authorised person shall unlock or open or attempt to unlock or open any safety-lamp.

Explosives and Shot-firing.

81.—No person shall use or have in his possession in the mine any explosive other than an explosive permitted by the manager.

82.—All shots shall be fired by, or under the personal directions of, a competent person appointed in writing by the manager.

83.—Every person when about to fire a shot shall give sufficient warning to every person likely to be endangered.

84.—When a shot has missed fire the entrance to the place shall be fenced, and no person shall go beyond the fence until the expiration of one hour; but when an electric apparatus has

been used for the purpose of firing the shot, the interval of an hour may be reduced to 5 minutes after the battery has been disconnected.

85.—In the case of a shot missing fire the person in charge of the shot at the time of the miss-fire shall report it to the manager or under-manager for record in a book to be kept for that purpose.

86.—All persons using or conveying explosives shall observe the regulations of General Rule 13 relating to shot-firing and explosives.

87.—Detonators shall be kept in a securely locked box separate from any other explosive.

Surface railways and siding.

88.—The locomotive-driver shall sound the whistle when the locomotive is approaching any place where persons work, or where the driver's sight is intercepted.

89.—When wagons are being pushed in front of the locomotive a shunter shall accompany the leading wagon.

90.—When wagons are about to be moved, persons likely to be endangered shall be warned by the person in charge of the work.

Native Doctor.

91.—He shall visit and inspect all villages or dhowras placed under his charge by the manager of the mine at least once a week, and shall report to the manager if he observes any danger to public health.

92.—He shall inspect, at least once a week, all the ambulance appliances, whether placed above or below ground, and shall report the state of them to the manager.

93.—He shall promptly attend to every case of serious accident and every case of serious illness whether above or below ground.

94.—He shall accompany every case of serious accident to the hospital, where a hospital is available.

95.—He shall, when so directed by the manager, instruct the mine officials in "first aid," and drill them regularly.

ADDITIONAL RULES FOR SINKING-PITS.

Winding-engineman.

96.—The engineman shall allow the rope to steady before the tub or load leaves the top or bottom of the shaft.

97.—The engineman shall not lower the descending tub past a point 18 feet from the pit-bottom until he receives a signal to do so from the pit-bottom.

Banksman.

98.—The banksman shall securely tie to the tub, bow-chains, or rope all sinking-tools or other gear if they project above the rim of the tub or bucket; and shall safely sling timber or other bulky articles, and when sending bricks or building materials down the pit must load them below the top of the tub or bucket.

99.—The banksman must see that the pit-top is securely covered before landing tubs or materials.

Chargeman, Sinker and Workman.

100.—One man in each shift shall have entire charge of the pit-bottom. For the purposes of these rules this person shall be called the chargeman.

101.—The chargeman must carefully examine the sides of the pit at the beginning of each shift, and remove all loose pieces.

102.—The chargeman must see that the tubs or buckets are properly loaded and steadied, and that the outside of them is free from the stones or clay before sending them up the pit.

103.—The chargeman shall see that all tools and gear are securely tied to the tub, bow-chains, or rope if they project above the rim of the tub or bucket.

104.—The chargeman or sinker shall not send any tub or bucket up the pit if it is so loaded that its contents are above the rim.

APPENDIX V.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine.	No. of Mine in List.	Situation of Mine.	Name of Manager, and No. and Class of his certificate.	Name of Assistant Manager, and No. and Class of his certificate.	Name of Managing Agent.	Date of establishment of Special Rules.	Persons employed.		Remarks.
								Below ground.	Above ground.	
Bengal (Raniganj Coalfield).										
Abdul Karim & Bros. Barakar P. O.	Kupasara	...	Kupasara, Manbhum	Ahmed Yusuf	...	.....	...	16	9	
Adjai Coal Assoc. Nandi P. O.	Nandi	...	Nandi, Burdwan. Jamuria or Raniganj Railway Stations.	...	...	.....	...	31	17	
Adjai Coal Co., Ld.	Do.	...	Do. do.	Robt. Mitchell	...	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	332	109	
Ahmed Yusuf Barakar P. O.	Egarcoor	...	Egarcoor, Manbhum	Ahmed Yusuf	...	.....	...	24	14	
Aldih Coal Co., Ld.	Aldih	...	Aldih, Burdwan. Sitarampur Railway Station.	W. O. Mitchell	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	109	80	
Apcar & Co. 19, Radha Bazar, Calcutta.	Charanpur	...	Domahani, Burdwan. Asansol Railway Station, 7 miles.	E. M. Patterson	...	.....	...	413	254	F. J. Agabeg, Agent.
Do. do.	Faridpur	...	Do. do.	H. C. Mondul	...	.....	...	40	23	
Do. do.	Ranadanga	...	Do. do.	...	...	.....	...	132	108	
Bagherati Coal Co. Kalipahari P. O.	Bhutdoba	...	Kalipahari, Burdwan	...	...	.....	...	60	35	
Baliram Coal Co. Kalipahari P. O.	Ghusik	...	Ghusik, Burdwan. Kalipahari Railway Station, 1 mile.	A. L. Ghosh	...	.....	...	150	65	
Do. do.	Mosila	...	Mosila, Burdwan. Kalipahari Railway Station.	...	...	.....	...	90	95	
Banerji, M. N. (and Bros.) Mejia P. O., Bankura.	Kalikapur	...	Kalikapur, Bankura. Raniganj Railway Station.	P. C. Topadir	...	.....	....	65	10	
Bankura Coal Co. Kalipahari P. O.	Dobalia	...	Kalipahari, Burdwan	R. G. Mukherji	...	.....	...	46	15	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine.	No. of Mine in List.	Situation of Mine.	Name of Manager, and No. and Class of his certificate.	Name of Assistant Manager, and No. and Class of his certificate.	Name of Managing Agent.	Date of establishment of Special Rules.	Persons employed. Below ground.	Persons employed. Above ground.	Remarks.
			Bengal (Raniganj Coalfield)—*contd.*							
Baraboni Coal Co.	Baraboni	...	Baraboni, Burdwan. Asansol or Baraboni Railway Stations.	...	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	306	112	
Baraboni (New) Coal Co. (K. B. Pal Choudhuri and others). Charanpur P. O.	Do. (New)	...	Do. do.	...	...	Madhu Sudon Pal Choudhuri and Sons	...	56	28	
Baraboni (South) Coal Co. (K. B. Pal Choudhuri). Charanpur P. O.	Baraboni (South)	...	Baraboni, Burdwan. Asansol or Baraboni Railway Stations.	...	...	.....	...	...	5	
Baraboni (West) Coal Co. (P. N. Bose). 63, Dharamtallah St.	Baraboni	...	Do. do.	...	...	.....	...	86	27	
Do. do.	Baraboni (West)	...	Do. do.	...	...	.....	...	43	68	
Do. do.	Napara	...	Do. do.	K. N. Bose	...	.....	...	52	34	
Baraboni Coal Concern, Ld.	Nimcha	...	Nimcha do. Raniganj Railway Station.	S. C. Sarkar	...	.....	...	95	78	
Do. do.	Haripur	...	Haripur, do. do.	...	...	.....	...	45	32	
Barakar Brick and Tile Syndicate. Barakar P. O.	Garphalbari	...	Garphalbari, Manbhum	...	...	.....	...	22	8	
Barakar Coal Co., Ld.	Jamgram	...	Jamgram, Burdwan. Gourangdi Railway Station.	E. C. Agabeg	...	Bird & Co., 101-1, Clive St., Calcutta.	...	345	188	E. C. Agabeg, Agent.
Do. do.	Kantapahari	...	Kantapahari do.	G. O. Reaks	...	Do.	...	655	192	E. C. Agabeg, Agent.
Basanti Oakdene Coal Co.	Mamudpur	...	Mamudpur, Burdwan	...		Stanley Oakes & Co., 13-2, Govt. Place, Calcutta.	...	79	43	

Do. do. . .	Mouzra . .	...	Do. do. .	P. K. Chatterji .	...	Do. . .	...	53	54		
Beerbhum (New) Coal Co., Ld. .	Baraboni . .	...	Baraboni, do. . . Baraboni or Asansol Railway Stations.	A. Russell . .	...	Balmer Lawrie & Co., 103, Clive St., Calcutta.	...	947	159	Including Jairamdanga figures.	
Do. do. . .	Belrui . .	...	Belrui, do. . . Sitarampur Railway Station.	...	...	Do. . .	...	168	138		
Do. do. . .	Borrea . .	...	Borrea, do. . . Kulti Railway Station.	...	...	Do. . .	...	676	401	S. Heslop, Agent.	
Do. do. . .	Chinchuria .	...	Chinchuria, do. . . Asansol Railway Station.	...	...	Do. . .	...	115	53		
Do. do. . .	Dhadka . .	...	Dhadka, do.	...	...	Do. . .	...	275	173		
Do. do. . .	Jairamdanga .	...	Jairamdanga, do. do. .	A. Russell . .	...	Do . .	...	...	...	Figures included with Baraboni.	
Do. do. . .	Mosila . .	...	Mosila, do. Kalipahari Railway Station.	...	...	Do. . .	...	37	22		
Bengal Coal Co., Ld. . 5, Fairlie Place, Calcutta.	Banksimulla .	...	.....	G. H. Gough .	...	.....	...	...	...		
Do. do. .	Chanch . .	...	Chanch, Manbhum. Barakar Railway Station.	T. C. Piggford .	...	.....	...	...	...		
Do. do. .	Damudapur .	...	Damudapur, Burdwan. Raniganj or Ikra Railway Stations.	G. H. Gough .	...	.. ...	...	325	251		
Do. do. .	Dumarkunda .	...	Dumarkunda, Manbhum. Barakar Railway Station.	T. C. Piggford .	...	.....	...	...	...	G. F. Scott, Superintendent.	
Do. do. .	Laikdi . .	...	Laikdi, Manbhum. Barakar Railway Station.	Do. .	...	.....	...	...	...		
Do. do. .	Raniganj . .	...	Egara, Burdwan. Raniganj Railway Station.	...	...	.....	...	296	140		
Do. do. .	Sanctoria . .	...	Sanctoria, Burdwan. . Barakar Railway Station.	W. Forster .	...	.....	...	696	354		
Do. do. .	Sitalpur . .	...	Sitalpur, do. do. .	A. Sheridan .	...	.....	...	386	66		
Do. do. .	Sodepur . .	...	Sodepur, do. . Sitarampur or Barakar Railway Stations.	Do. .	...	.....	...	1,282	424		
Bengal Imperial Coal Co. . Nirshachatti P. O.	Mugma . .	...	Mugma, Manbhum. . Mugma Railway Station.	...	...	.....	..	...	2		

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine.	No. of Mine in list.	Situation of Mine.	Name of Manager, and No. and Class of his certificate.	Name of Assistant Manager, and No. and Class of his certificate.	Name of Managing Agent.	Date of establishment of Special Rules.	Persons employed.		Remarks.
								Below ground.	Above ground.	
			Bengal (Raniganj Coal-field)—*contd.*							
Bengal Iron and Steel Co., Ld.	Kendwa . .	...	Kendwa, Burdwan. Barakar or Kulti Railway Stations.	A. Wood . .	...	Martin & Co., 34, Jackson Ghat Street, Calcutta.	...	186	44	
Bengal Nagpur Coal Co., Ld. .	Gangutia . .	...	Gangutia, do. . Barakar Railway Station.	—Daley . .	...	Andrew Yule & Co., 7, . Clive Row, Calcutta.	...	451	99	
Bhattacharji, U. C., (& Co.) . Barakar P. O.	Egarcoor . .	...	Egarcoor, Manbhum. . Barakar Railway Station.	...	...	.....	...	24	13	
Bhuskajuri Coal Co., Ld. .	Bhuskajuri .	...	Bhuskajuri, Burdwan. . Asansol or Baraboni Railway Stations.	E. A. Whyte .	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	150	215	
Bonjamari do. . . Salanpur P. O.	Bonjamari .	...	Bonjamari, do. .	...	...	.....	...	17	16	
Borrea Coal Co., Ld. . .	Salanpur . .	...	Salanpur, do. . Sitarampur Railway Station.	J. Mackintosh .	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	1,162	461	
Burdwan Coal Co. (G. B. Sircar) Kalipahari P. O.	Mosila . .	...	Mosila, Burdwan. Kalipahari Railway Station.	G. C. Bhattacharji.	...	.....	...	32	25	
Do. do. Sundarchak P. O.	Mouthdih .	...	Mouthdih, Burdwan. Sitarampur Railway Station.	.....	...	.....	...	25	10	
Burman & Co. . . .	Baraboni . .	...	Baraboni, Burdwan. Asansol or Baraboni Railway Stations.	.. ...	...	.....	...	...	...	
Burn & Co. . . . . Barakar P. O.	Rajpura .	...	Rajpura, Manbhum. Barakar Railway Station.	.....	...	.....	...	32	16	
Chakravarti, U. C., (& Co.) . Charanpur P. O.	Kasidanga .	..	Kasidanga, Burdwan. . Kalipahari Railway Station.	.....	...	.....	...	50	21	
Kahatterji, R. B. . . . Kalipahari, P. O.	Ghusik . .	...	Ghusik, do. do. .	.....	...	.....	...	15	8	

Do. . . .	Damra (Old) .	...	Damra, do. do. .	.....	...	.....	...	71	38
Chatterji, S. B. . . . Nirshachatti P. O.	Khudia . .	...	Shampur, do. . Mugma Railway Station.	.....	...	.....	...	48	33
Chatterji Colliery Co. (A. C. Chatterji.) Sundarchak P. O.	Mouthdih .	...	Mouthdih, do. . Sitarampur Railway Station.	P. Chatterjee .	...	... ..	...	51	56
Chota Dhemo Coal Co. . . Dishargarh P. O.	Chota Dhemo .	...	Chota Dhemo, do. . Sitarampur Railway Station.	.....	...	.....	...	128	60
Chowdry, H. C., & Banerji, H. . Kalipahari P. O.	Kalipahari .	...	Kalipahari, do. . Kalipahari Railway Station.	.....	...	.....	...	54	8
Churulia Syndicate. . .	Churulia . .	...	Churulia, do. . Asansol or Churulia Railway Stations.	.....	...	Turner, Morrison & Co., 6, Lyon's Range, Calcutta.	...	...	50
Creet, S. T., & Co. . . . Kalipahari P. O.	Ghusik . .	...	Ghusik, do. Kalipahari Railway Station.	A. T. Creet .	...	.....	...	446	201
Do. . . .	Baraboni . .	...	Baraboni, Burdwan .	Do. .	...	.....	...	...	...
Damra (New) Coal Co. . . Kalipahari P. O.	Damra (New) .	...	Damra, do. Kalipahari Railway Station.	.....	...	.....	...	145	30
Damuda Coal Co., Ld. . . Sitarampur P. O.	Bamundiha .	...	Bamundiha, do. . Sitarampur Railway Station.	C. H. McCale .	...	Balmer Lawrie & Co., 103, Clive Street, Calcutta.	...	295	82
Do. do.	Lutchipur .	...	Lutchipur, do. do. .	Do. .	...	Do. do.	...	353	159
Dassi, Netambini . . . Barakar P. O.	Kusumkanali, lately Kupasara.	...	Kupasara, Manbhum .	...	...	.. ...	....	18	7
Dhur, B. N., & Co. . . Asansol P. O.	Aradanga or Banbistupur.	..	Banbistupur, Burdwan	...	...	.....	...	62	44
Dutt, P. C. . . . . Sitarampur P. O.	Bamundiha .	...	Bamundiha, Burdwan. . Sitarampur Railway Station.	H. C. Dutt .	...	.....	...	78	50
Dutt, Kabra Coal Co. . . Barakar P.O.	Begunia .	...	Begunia, Burdwan. Barakar Railway Station.	Rajani Kanta Sardar.	...	.....	...	45	10
East Indian Coal Co., Ld. .	Agoa .	...	Agoa, Manbhum. Mugma Railway Station.	...	...	Jardine, Skinner & Co., 4, Clive Row, Calcutta.	...	4	25
Eastern Coal Co. . . .	Jotemotuk or Joba.	...	Joba, Burdwan. Raniganj Railway Station.	A. H. Ward .	...	Mackinnon, Mackenzie & Co., Calcutta.	...	258	31

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal (Raniganj Coal-field)—*contd.*							
Equitable Coa /Co., Ld. . . Dishargarh P. O.	Chowrasi . .	...	Chowrasi, Manbhum. Barakar Railway Station.	R. Bell . .	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	264	209	W. Miller, Agent.
Do. do. . .	Dishargarh .	...	Dishargarh, Burdwan. Barakar Railway Station.	Frank Owen .	...	Do.	...	1,717	235	
Do. do. . .	Jamuria . .	...	Jamuria, Burdwan. Asansol or Raniganj Railway Stations.	R. Barrowman .	...	Do.	...	948	120	
Do. do. . .	Satpukuria .	...	Satpukuria, Burdwan .	Do. .	...	Do.	...	90	30	
Fatka Coal Co. . . .	Fatka . .	...	Pandedih, Burdwan .	S. N. Sarkar .	...	.....	...	...	...	
Ganguly, J. N. . . Sitarampur P. O.	Sudihi . .	...	Sudihi, Burdwan . .	...	...	.....	...	10	3	
Ghosal, Sen & Co. . . . Mejia P. O., Bankura.	Banskuri . .	...	Banskuri, Bankura. Raniganj Railway Station.	L. B. Sen . .	...	.....	...	4	3	
Ghusik Coal Co. . . . Kalipahari P. O.	Ghusik . .	...	Ghusik, Burdwan. Kalipahari Railway Station.	...	...	.....	...	27	24	
Hariladih Coal Co. . . .	Akhalpur . .	...	Akhalpur, do. .	R. Barrowman .	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	...	...	
Jafar Yusuf . . . . Barakar P. O.	Kupasara . .	...	Kupasara Manbhum .	Jafar Yusuf .	...	.....	...	...	...	
Jagannath Coal Co., (Jagannath Marwari). Raniganj P. O.	Raghunathchak	...	Raghunathchak, Burdwan. Raniganj Railway Station.	C. C. Pal . .	...	.....	...	10	9	
Jharia-Katras Coal Co. . .	Sibpur . .	...	Sibpur, Burdwan. Raniganj or Asansol Railway Stations.	P. S. Keelan .	...	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	579	113	
Kamola Coal Co. . . . Kalipahari P. O.	Chotapathar .	...	Asansol, Burdwan. Kalipahari Railway Station.	...	...	.....	...	79	40	

Kanga & Co. . . . Kusunda P. O.	Sarthakpur .	...	Sarthakpur, do. . . Toposi Railway Station.	T. M. Bamjbi .	...	.....	...	19	33
Kaviraj, R. L. . . . Mihijam P. O., Santhal Parganas.	Sultanpur .	...	Sultanpur, Santhal Parganas. Churulia Railway Station.	...	...	.....	...	15	5
Laik and Banerji . . .	Chota Dhemo .	...	Chota Dhemo, Burdwan. Sitarampur Railway Station.	...	...	.....	...	144	47
Lutchipur Coal Co., Ld. . .	Lutchipur. .	...	Lutchipur, do. . Sitarampur Railway Station.	—Myers . .	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	178	240
Do. do. . .	Panchgatchia .	...	Panchgatchia, do. do.	E. L. Barnett .	...	Do.	...	775	500
Malia, D. and R. . . . Raniganj P. O.	Jemari . .	...	Jemari, do. . Raniganj Railway Station.	J. B. Middleton .	...	.....	...	331	181
Do. do. . . .	Searsol . .	...	Searsol, do do.	Do. .	...	.....	...	200	134
Manbhum (New) Coal Co.	Dhoondabad .	...	Dhoondabad do. . Sitarampur Railway Station.	W. O. Whiffen .	...	Octavius, Steel & Co., 14, Old Court House Street, Calcutta.	...	200	100
Marwari, Jagannath . . Chora P. O.	Bunbehal . .	...	Bunbehal, do. . Raniganj Railway Station.	B. L. Ganguly .	...	.....	...	28	19
Do., G. R. . . . Kalipahari P. O.	Kessabganj .	...	Khankuya, do. Kalipahari Railway Station.	...	...	.....	...	80	179
Meyer Coal Co. . . .	Bhutdoba . .	...	.....	...	...	Meyer Bros., 28, Pollock St., Calcutta.	...	65	15
Do. do. . . .	Nichinta . .	...	Nichinta do. .	B. K. Dutt .	...	Do.	...	70	21
Do. do. . . .	Nunniapool .	...	Kalipahari, do. . Kalipahari Railway Station.	Do. .	...	Do.	...	40	15
Mugma Coal Assoc. (H. N. Banerji). Barakar P. O.	Mugma . .	...	Mugma, Manbhum. Mugma Railway Station.	...	...	.....	...	7	3
Mukherji, B. D. . . . Dishargarh P. O.	Chota Dhemo .	...	Chota Dhemo, Burdwan. Sitarampur Railway Station.	H. P. Mukerji .	...	.....	...	247	62
Do., B. L. . . . Asansol P. O.	Napara . .	...	Napara, do. . Asansol or Baraboni Railway Stations.	...	...	.....	...	103	36
Do., R. P. . . . Asansol P. O.	Nuni . .	...	Nuni, Burdwan. Sitarampur or Asansol Railway Stations.	...	...	.....	...	63	46

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal (Raniganj Coal-field)—*contd*							
Mukherji, S. B. Charanpur P. O.	Faridpur	...	Charanpur, Burdwan. Asansol or Baraboni Railway Stations.	P. Banerji	...	.....	...	65	45	
Do. do. Nandi P. O.	New Nandi	...	Nandi, do. Raniganj or Jamuria Railway Stations.	K. C. Bhattacharji.	...	.....	...	54	28	
Do. do. Kalipahari P. O.	Niga Valley	...	Kalipahari, do. Kalipahari Railway Station.	...	...	.....	...	34	17	
Do., U. C. Sitarampur P. O.	Borachuk	...	Borachuk, do. Asansol or Sitarampur Railway Stations.	...	...	.....	...	108	49	
Nandi Coal Co., Ld. Nandi P. O.	Nandi	...	Nandi, do. Jamuria Railway Station.	...	...	.....	...	102	43	
Nandi, M. C. Barakar P. O.	Begunia	...	Begunia, do. Barakar Railway Station.	...	...	.....	...	25	12	
Do. do.	Begunia Khas	...	Do. do.	...	...	.....	...	79	34	
Do. do. Charanpur P. O.	Vanora	...	Jairamdanga, do. Baraboni or Asansol Railway Stations.	...	...	.....	...	31	8	
Navigation Coal Co., Ld. Phayre Street, Rangoon.	Raghunathbatty	...	Raghunathbatty, do. Sitarampur Railway Station.	G. H. Crabb	...	McLeod & Co., 31, Dalhousie Square, Calcutta.	...	314	250	
Do. do.	Sudihi	...	Sudihi, do.	Do.	...	Do.	...	98	85	
Ondal Coal Co.	Chora	...	Chora, do. Toposi Railway Station.	C. C. Augier	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	334	229	
Oriental Coal Association (H. C. Bose). 71, Pathuriaghata Street, Calcutta.	Bamundiha	...	Bamundiha, do.	...	...	.....	...	34	21	

Pal, J. N., and Rakhit K. N.	Jotejanaki	...	Jotejanaki, do. Toposi Railway Station.	G. S. Rai Chaudhuri.	...	.....	...	77	33	
Do. do.	Satpukuria	...	Satpukuria, do.	...	...	.....	...	110	58	
Parek, K. L. Barakar P. O.	Rajpura	...	Rajpura, Manbhum. Barakar Railway Station.	...	...	.....	...	27	10	
Raniganj Coal Association	Purandihi	...	Purandihi, Burdwan	...	...	Kilburn & Co., 4, Fairlie Place, Calcutta.	...	41	22	
Do. do.	Toposi	...	Toposi, do. Toposi or Raniganj Railway Stations.	H. C. Martin	...	Do.	...	160	188	
Reliance Coal Co., Ld.	Charanpur	...	Domohani, do. Asansol or Baraboni Railway Stations.	P. Scott	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	441	192	
Roy, B. L. Barakar P. O.	Kalimati	...	Kalimati, Manbhum. Barakar or Mugma Railway Stations.	...	...	.....	...	6	1	
Sadhu, R. C. Charanpur P. O.	Palasthal	...	Jamtara, Santhal Parganas. Jamtara Railway Station.	...	...	.....	...	11	8	
Sahana & Co. Raniganj P. O.	Sopachora	...	Sonachora, Burdwan	S. N. Daw	...	.....	...	27	34	
Sarthakpur Coal Co. Chaukidanga P. O.	Sarthakpur	...	Sarthakpur, do. Toposi Railway Station.	D. N. Rai	...	.....	...	74	50	
Scorer, J. Barakar P. O.	Begunia	...	Begunia, do. Barakar Railway Station.	...	...	.....	...	26	6	
Seal, A. N. Sundarchak P. O.	Sangamahal	...	Sangamahal, Manbhum	..	...	.....	...	5	1	
Shampur Coal Co.	Bamundiha	...	Bamundiha, Burdwan. Sitarampur Railway Station.	B. K. Pal	...	Geo. Henderson & Co., 100, Clive Street, Calcutta.	...	100	63	Including figures for Sundarchak.
Do. do.	Shampur	...	Shampur, Manbhum	Do.	...	Do.	...	400	132	
Do. do.	Sundarchak	...	Sundarchak, Burdwan. Sitarampur Railway Station.	Do.	...	Do.	...	...	...	Figures included with Bamundiha.
Sibpur do.	Pretoria	...	Sibpur, Burdwan. Asansol, Jamuria or Raniganj Railway Stations.	P. S. Keelan	...	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	290	62	
Sidheswari do.	Satpukuria	...	Dhasal	...	...	.....	...	61	34	

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								Below ground.	Above ground.	
			Bengal (Raniganj Coal-field)—*concld.*							
Singaran Coal Syndicate	Jotejanaki	...	Jotejanaki, Burdwan. Toposi Railway Station.	J. A. Millar	...	MacLeod & Co., 31, Dalhousie Square, Calcutta.	..	193	286	
Singh & Co., K. D. Kalipahari P. O.	Kalipahari	...	Kalipahari, do. Kalipahari Railway Station.	R. N. Singh	...	.....	...	65	20	
Do., R. N. Asansol P. O.	Banbistupur	...	Banbistupur, do.	...	...	.....	...	55	15	
Sircar and Barnard	Banali	...	Banali, do.	...	...	.....	...	...	...	
Do. do.	Kuardi	...	Kuardi, do.	J. B. Gibb	...	.....	...	...	...	
Sitarampur Coal Co., Ld.	Narsamuda	...	Narsamuda, do.	W. V. Hannaford		Lyall, Marshall & Co., 25, Mangoe Lane, Calcutta.	...	212	255	
Sibhuja Coal Co. Kalipahari P. O.	Mosila	...	Mosila, do. Kalipahari Railway Station.	...	...	.....	...	14	5	
Sukul, Baswan	Ghusik (New)	...	Ghusik, do. do.	...	...	.....	...	13	6	
Tareni Coal Co. Chora P. O.	Haripur	...	Haripur, do.	J. N. Chatterji	...	.....	...	42	6	
Union Coal Co. Kalipahari P. O.	Chotapathar	...	Asansol, do. Kalipahari Railway Station.	...	...	.....	...	19	4	
West Barakar Coal Co.	Mugma	...	Mugma, Manbhum Mugma Railway Station.	...	...	.....	...	11	4	
White, A. Barrah P. O.	Arrong	...	Arrong, Birbhum	...	...	.....	...	32	8	

			Bengal (Rajmahal Coalfield).							
De, G. C. . . . . Dumka P. O., Santhal Parganas.	Domanpur .	...	Domanpur, Santhal Parganas. Rampurhat Railway Station.	...	...	...	...	1		
Do. do.	Sarsabad .	...	Sarsabad, do. do.	...	...	...	..	1	...	
De, R. K. . . . . Dumka P. O., Santhal Parganas.	Domanpur Bhalki.	...	Bhalki, do. do.	...	...	...	..	5	...	
Do. do.	Ghatchora	...	Asanbani, do. do.	..	...	.....	..	1	...	
De, S. B. . . . . Dumka P. O., Santhal Parganas.	Bargo .	...	Bargo, do. do.	..	...	.....	...	4	...	
			Bengal (Jharia Coalfield).							
Agabeg Bros. . . . Sijua P. O.	Jogta .	...	Jogta, Sijua Railway Station, $\frac{1}{8}$ mile, S. E.	A. Agabeg .	...	.....	...	360	320	
Agarwala, Ramgus and Fulchand.	Khas Jharia .	...	Khas Jharia, Jharia Railway Station.	Fulchand Agarwala.	...	.....	...	...	...	
Aldih Coal Co., Ld. . .	Bhutgoria .	...	Bhutgoria, Jharia Railway Station.	G. Miller .	J. Murphy .	McNeill & Co., Clive Ghat Street, Calcutta.	...	91	66	
Do. do. . .	Soorgoojia .	...	Soorgoojia, do. .	Do. .	Do. .	Do. . .	...	62	5	
Angarpatra Coal Co. . . (P. C. Roy & others.)	Angarpatra .	...	Angarpatra, Sijua Railway Station, $\frac{3}{4}$ mile, N. W.	Girish Ch. Chandra.	H. P. Goswami	.....	...	45	42	
B. R. & N. Coal Co. . .	Joyrampur .	...	Joyrampur, do. .	Bira Mavji .	...	.....	...	20	12	
Bagchi, R. N. . . . Jharia P. O.	Dobari . .	...	Dobari, Jharia Railway Station.	S. C. Dutt .	...	.....	...	64	154	
Banerji & Co., H. C. . . Katras P. O.	Chandore . .	...	Chandore, Sijua Railway Station, 1 mile, N.	J. N. Chatterji .	...	.....	...	6	3	
Banerji, J. L. (Coal Concern) .	Surataur . .	...	Jharia Khas, Jharia Railway Station.	A. K. Banerji	...	Laik & Banerji, 7, Swallow Lane, Calcutta.	...	138	41	
Bansdeopur Coal Co. . . Kusunda P. O.	Bansdeopur .	...	Bansdeopur, Kusunda Railway Station, 1 mile, S. W.	G. H. Creet .	...	.....	...	119	145	
Bansjora Coal Co. . . . Sijua P. O.	Bansjora . .	...	Bansjora, Sijua Railway Station, $\frac{1}{2}$ mile, N. E.	A. Agabeg .	...	.....	...	48	45	
Barakar Coal Co. . . .	Loyabad . .	...	Loyabad, Kusunda Railway Station, 2 miles, W.	E. S. Bennertz .	F. J. Ashcroft	Bird & Co., 101-1, Clive Street, Calcutta.	...	645	600	H. C. Veasey, Agent.
Do. do. . . .	Madhuband .	...	Nowagarh Khas, Katrasgarh Railway Station.	...	...	.....	...	217	220	

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								Below ground.	Above ground.	
			Bengal (Jharia Coalfield)—*contd.*							
Barakar Coal Co. (North) Jharia P. O.	Lodna	...	Lodna, Jharia Railway Station.	J. K. Mittra	...	.....	...	150	60	
Bengal Iron and Steel Co., Ld.	Noonoodih	...	Noonoodih	A. Wood	...	Martin & Co., 34, Jackson's Ghat Street, Calcutta.	...	31	6	
Bengal Nagpur Coal Co.	Bhuggutdih	...	Bhuggutdih, Dhanbaid Railway Station.	D. Bone	...	Andrew, Yule & Co., 7, Clive Row, Calcutta.	...	380	110	
Bhalgora Coal Co., Ld. Kusunda P. O.	Bhalgora	...	Bhalgora, Jharia Railway Station.	R. Barnard	...	.....	...	715	213	
Do. do	Simlabahal	...	Simlabahal, Jharia Railway Station.	J. B. Gibb	...	.....	...	...	...	
Borrea Coal Co.	Bhagaband	...	Bhagaband, do.	F. W. Heilgers	...	.....	...	104	66	
Bulliari Coal Association (Karman Wasta), Jharia P. O.	Bulliari	...	Bulliari, Kusunda Railway Station, 2½ miles.	...	...	.....	...	25	23	
Bulliari Coal Concern (Khararamji Kachi), Jharia P. O.	Do.	...	Do. do.	...	...	.....	...	37	60	
Bulliari Coal Syndicate (Kanji Khengar), Jharia P. O.	Do.	...	Do. do.	Gobardhan Mani Sankar.	...	.....	...	9	6	
Busserya Coal Co. Kusunda P. O.	Busserya	...	Busserya, Kusunda Railway Station, ½ mile, W.	A. R. Bhar	...	.....	...	225	92	
Central Bengal Coal Co. (Bhimji, P. S.), Katras P. O.	Kantapahari (West).	...	Kantapahari, Sijua Railway Station, ¾ mile, N. W.	P. Bhimji	...	.....	...	6	10	
Central Kurkend Coal Co., Ld. Kusunda P. O.	Kurkend	...	Kurkend, Kusunda Railway Station, 1½ miles, W.	D. A. Whyte	...	.....	...	150	180	

Chandra, Haresmal Ram Kusunda P. O.	Tettulia	...	Tettulia, Katras Railway Station, 1¾ miles, W.	...	...	.....	...	6	8	
Chuni Lal Coal Co. Kusunda P. O.	Bulliari	...	Bulliari, Kusunda Railway Station, 2¼ miles, S.	...	...	.....	...	30	12	
Das, L. H. Jharia P. O.	Pandeybera	...	Kujama, Jharia Railway Station.	Lila Walji	...	.....	...	...	40	
Das, R. B. Kusunda P O.	Gararia	...	Garba, Kusunda Railway Station, 1½ miles, W.	R. B. Dass	...	.....	...	18	10	
Dosa, Ganji and Khunji Jharia P. O.	Futtehpur	...	Futtehpur, Jharia Railway Station.	Ganji Dosa	...	.....	...	35	30	
East Barari Coal Co. Jharia P. O.	Parbad	...	Parbad, do.	T. D. Rewasankar	...	.....	...	40	33	
East Indian Coal Co., Ld.	Brahmanbarari and Bhulanbarari.	...	Brahmanbarari, do.	T. Fleury	—Miller	Jardine, Skinner & Co., 4, Clive Row, Calcutta.	...	1,310	780	J. J. Turnbull, Agent.
Do. do.	Bulliari and Khaira.	...	Bulliari and Khaira, Kusunda Railway Station.	Do.	...	Do.	...	705	335	
Do. do.	Kendwadih	...	Kendwadih, Kusunda Railway Station, ¾ mile, S.	R. G. M. Bathgate.	J. W. Nierses	Do.	...	758	414	
East Jharia Coal Concern (S. Banerji & R. K. Sahana). Jharia P. O.	Ganhudih	...	Ganhudih, Kusunda Railway Station, 5 miles, and Dhanbaid Railway Station, 3½ miles.	...	...	.....	...	20	13	
Eastern Coal Co.	Bhowra	...	Bhowra, Jharia Railway Station, 4 miles.	R. J. Browne	...	Mackinnon, Mackenzie & Co., Calcutta.	...	537	168	
Do. do.	Kunkani	...	Kunkani, Sijua Railway Station, 1⅓ miles, S. E.	...	...	Do.	...	420	151	
Finlay, Muir & Co., 1, Clive Street, Calcutta.	Mutulidih	...	Murulidih, Katras Railway Station, 6 miles.	A. M. Thaddeus	...	.....	...	340	170	
Ganguli, S. C.	Pandedih	...	Pandedih, Sijua Railway Station.	...	...	.....	...	...	...	
Gopalichak Coal Co.	Gopalichak	...	Gopalichak, Kusunda Railway Station, ⅛ mile, S.	A. Gregory	...	MacLeod & Co., 31, Dalhousie Square, South, Calcutta.	...	406	106	
Gorai, N. L. Barakar P. O.	Sowardih	...	Sowardih, Jharia Railway Station.	...	...	.....	...	17	2	
Hamir, P. D. Jharia P. O.	Futtehpur	...	Futtehpur, Jharia Railway Station.	P. D. Hamir	...	.....	...	12	8	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal (Jharia Coalfield)—*contd.*							
Hamir, P. D. Jharia P.O.	Durgapur	...	Durgapur, Jharia Railway Station.	P. D. Hamir	...	.....	...	...	...	
Hariladih Coal Co., Ld.	Burragurh	...	Burragurh, do.	Geo. Miller	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	64	12	
Do. do.	Hariladih	...	Hariladih, do.	Do.	...	Do.	...	117	43	
Do. do.	Kendwadih	...	Kendwadih, Jharia Railway Station, 3 miles.	Do.	...	Do.	...	198	32	
Hauji, T. D. Kusunda P. O.	Gararia	...	Gararia, Kusunda Railway Station, 1½ miles, W.	D. Hauji	...	.....	...	101	78	
Indian Collieries Syndicate, Ld.	Jamadoba	...	Jamadoba, Jharia Railway Station, 3 miles.	John White	D. Fleming	Kilburn & Co., 4, Fairlie Place, Calcutta.	...	781	430	
Jewel Coal Concern Kusunda P. O.	Kurkend	...	Kurkend, Kusunda Railway Station, 1½ miles, S. W.	...	...	.....	...	40	4	
Jharia Coal Association (N. L. Mukerji & Sons), Sijua P. O.	Pandedih	...	Pandedih, Sijua Railway Station, 1 mile, N.	N. L. Mukherji	...	.....	...	6	3	
Jharia Coal Syndicate Kusunda P. O.	Deriajoba	...	Deriajoba, Kusunda Railway Station.	F. B. Foster	...	Barlow & Co., Calcutta	...	212	100	
Do. do. Jharia P. O.	Emampahary	...	Kujama, Jharia Railway Station.	S. C. Ghosh	...	Do.	...	14	16	
Jharia Colliery Co.	Bhaga		Bhaga, Jharia Railway Station.	W. A. Hockly	T. Simpson	Hoare, Miller & Co., 38, Strand Road, Calcutta.	...	189	196	
Kanga & Co. Dhanbaid P. O.	Kusunda	...	Kusunda, Kusunda Railway Station, 1½ miles.	D. R. Boga	K. Framji	.....		140	47	
Kengarji Trikoo & Co.	Joyrampur	...	Joyrampur, Jharia Railway Station.	Mawgi Ruda	...	.....	...	45	12	

Khas Jharia Coal Co.	Phularibad	...	Jharia Khas, Jharia Railway Station.	A. K. Banerji	...	Laik & Banerji, 7, Swallow Lane, Calcutta.	...	63	16
Khimji Moorji	Joyrampur	...	Joyrampur	Jeram Jetha	...	.....	...	34	8
Khora Ramji Kutchi, Jharia P. O.	Jharia Khas	...	Jharia Khas, Jharia Railway Station.	Narain Pachon	...	.....	...	52	49
Kurkend Coal Co. Kusunda P. O.	Kurkend	...	Kurkend, Kusunda Railway Station, 1½ miles, S. W.	B. L. Dutt	...	.....	...	85	25
Do. do. (East)	Do.	...	Do. do.	.....	...	.....	...	175	75
Kurkend Coal Concern (Chakravarti & Co.), Kusunda P. O.	Do.	...	Do. do.	J. N. Chatterji	...	.....	...	70	25
Do. do. (East)	East Kurkend	...	Do. do.	.....	...	.....	...	...	...
Kurkend Coal Syndicate, Ld. (New). Kusunda P. O.	Kurkend	...	Do. do.	.....	...	.....	...	194	38
Kusunda and Nyadi Collieries, Ld.	Kusunda and Nyadi.	...	Kusunda, Kusunda Railway Station, 1 mile.	C. L. Phillipps	G. John	Martin & Co., 34, Jackson's Lane, Calcutta.	...	900	495
Laik and Banerji	Bhulanbarari	...	Bhulanbarari, Jharia Railway Station.	Bankim Ch. Banerji.	...	M. L. Laik & Banerji, 7, Swallow Lane, Calcutta.	...	180	99
Laik, M. L. Katras P. O.	Kantapahari	...	Kantapahari, Sijua Railway Station, ¾ mile, N. W.	K. D. Mukherji	...	Do.	...	46	5
Lakorka Coal Co., Ld.	Lakorka	...	Lakorka, Katrasgarh Railway Station, ⅛ mile.	Lolit Mohon Chaudhury.	..	Do.	...	107	55
Lodna Colliery Co., Ld.	Lodna	...	Lodna, Jharia Railway Station.	A. S. Thomson	H. Chambers	Turner, Morrison & Co., 6, Lyon's Range, Calcutta.	...	1,350	481
Lutchipur Coal Co.	Choitodih	...	Choitodih, Katrasgarh Railway Station, 1½ miles, W.	E. Bennertz	T. C. Barker	Bird & Co., 101-1, Clive Street, Calcutta.	...	130	180
Manbhum Coal Co. (New)	Ganzlatar	...	Ganzlatar, Sijua Railway Station, ¾ mile, W.	F. C. Cork	...	Octavius, Steel & Co., 14, Old Court House Street, Calcutta.	...	230	50
Mehta, B. D. Jharia P. O.	Joyrampur	...	Joyrampur, Jharia Railway Station.	...	...	.....	...	...	60
Motiram Coal Co., Ld. Dhanbaid P. O.	Kurkend	...	Kurkend, Kusunda Railway Station, 1 miles, S. W.	N. C. Ghosh	...	.....	...	25	12
Mylne & Co. Kusunda P. O.	Godhur	...	Godhur, Kusunda Railway Station, ⅛ mile, S.	S. B. Raha	...	.....	...	89	33

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal (Jharia Coalfield)—*contd.*							
Nundi, M. C. (Maharajah) Kusunda P. O.	Ekra Khas	...	Ekra, Kusunda Railway Station, 1½ miles, W.	M. N. Ray	...	.....	...	119	31	
Nanji, Khanji & Sanji	Kujama	...	Kujama, Jharia Railway Station.	Walji Kheta	...	.....	...	...	...	
National Coal Co. Katras P. O.	Chandore	...	Chandore, Sijua Railway Station, 1 mile, N.	U. N. Nandi	...	.....	...	11	7	
New Angarpatra Coal Co. Katras P. O.	Kantapahari	...	Kantapahari, Sijua Railway Station, ¾ mile, N. W.	G. C. Chandra	...	.....	...	22	8	
Nowagarh Coal Co., Ld.	Katras	...	Katras, Katrasgarh Railway Station, ½ mile, W.	T. H. Bennertz	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	640	305	
Pain, B. L. Katras P. O.	Chandore	...	Chandore, Sijua Railway Station, 1 mile, N.	N. N. Rai	...	.....	...	14	8	
Pal, Srinath (Rai) Katras P. O.	Sendra	...	Sendra, Sijua Railway Station, 1 mile, E.	Satkari Chatterji	...	.....	...	146	29	
Pandeybera Colliery Co. Jharia P. O.	Pandeybera	...	Kujama, Jharia Railway Station.	...	...	.....	...	10	13	
Pate l& Co. Kusunda P. O.	Kusunda	...	Kusunda, Kusunda Railway Station, 1½ miles, S. E.	K. B. Irani	...	.....	...	30	20	
R. M. R. Coal Concern	Joyrampur	...	Joyrampur, Jharia Railway Station.	Mavji Gokal	...	.....	...	30	18	
Ramji, Jai Ram Jharia P. O.	Kujama	...	Kujama, do.	...	...	.....	...	6	14	
Raniganj Coal Association, Ld.	Alkusa	...	Alkusa, Kusunda Railway Station, 1⅓ miles, S.	J. S. Kean	...	Kilburn & Co., 4, Fairlie Place, Calcutta.	...	641	87	
Do. do.	Kiska	...	Kiska, Kusunda Railway Station, 1⅓ miles, S.	Do.	...	Do.	...	42	8	

Do. do.	Kustore	...	Do., do. 2 miles, S.	Do.	...	Do.	...	255	38
Reliance Coal Co., Ld.	Moodidih	...	Moodidih, Sijua Railway Station, ⅓ mile, W.	A. Sam	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	624	284
Roy, J. K. Kusunda P. O.	Kusunda	...	Kusunda, Kusunda Railway Station, 1½ miles, S. E.	...	...	.....	...	...	5
Roy, P. K. Jharia P. O.	Surataur	...	Jharia Khas, Jharia Railway Station.	A. C. Banerji	...	.....	...	40	15
Sainthia Coal Co.	Muhuriband	...	Kujama, do.	M. N. Gorai	...	.....	...	9	11
Samanta, G. C., Nephew & Co., Jharia P. O.	Kujama	...	Do., do.	D. N. Samanta	J. N. Samanta	.....	...	60	70
Sankar, T. R. Sijua P. O.	Gararia	...	Garbe, Kusunda Railway Station, 1½ miles, W.	Chuni Lal	...	.....	...	9	5
Sarkar, R. B. Kusunda P. O.	Kurkend	...	Kurkend, Kusunda Railway Station, 1½ miles, S. W.	M. N. Ghosh	...	.....	..	28	12
Seal, K. B. Jharia P. O.	Surataur	...	Jharia Khas, Jharia Railway Station.	K. Mitter	H. P. Mukherji	.....	...	140	31
Sijua Coal Co., Ld.	Budroochuck	...	Budroochuck, Sijua Railway Station.	A. H. Higby	W. F. Bampton	Balmer, Lawrie & Co., 103, Clive St., Calcutta.	...	73	26
Do. do.	Sijua	...	Sijua, do.	Do	...	Do.	...	539	220
Selected Coal Co., K. M. 210, Harrison Road, Calcutta.	Kusunda	...	Kusunda, Kusunda Railway Station, 1½ miles, S. E.	...	...	.....	...	30	40
Shewji Anand & Co.	Joyarampur	...	Joyarampur Railway Station.	Shamji Anand	...	.....	...	9	5
Singh, B. L. Katras P. O.	Gobindpur	...	Gobindpur, Katrasgarh Railway Station.	...	...	.....	...	6	4
Smith, C. J. Jharia P. O.	Bagdigi	...	Bagdigi	H. J. Belletti	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	232	202
Srimani, J. N. Katras P. O.	Angarpatra and Kantapahari.	...	Angarpatra, Sijua Railway Station, ¾ mile, W.	R. D. Mukherji	S. B. Banerji	.....	...	110	45
Standard Coal Co.	Benahir	...	Benahir, Jharia Railway Station.	G. M. Darby	N. Miller	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	500	500
Do. do.	Hariladih	...	Hariladih, do.	...	...	Do.	...	20	30

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								Below ground.	Above ground.	
			Bengal (Jharia Coalfield)—*concld.*							
Standard Coal Co.	Jharia Khas	...	Jharia Khas, Jharia Railway Station.	...	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	590	500	
Sudamdih do.	Sowardih	...	Sowardih, do.	K. N. Ghose	...	.....	...	53	25	
Tetturiya Coal Syndicate Kusunda P. O.	Tetturiya	...	Tetturiya, Katras Railway Station, 1¾ miles, W.	...	...	.....	...	29	17	
Triguniat Bros.	Angarpatra	...	Angarpatra, Sijua Railway Station, ¾ mile, W.	B. Triguniat	B. B. Triguniat	.....	...	101	42	
Do., B. B. Katras P. O.	Ramkanali	...	Ramkanali, Katrasgarh Railway Station.	...	...	.....	...	12	8	
Do., M. Katras P. O.	Chandore	...	Chandore, Sijua Railway Station, 1 mile, N.	...	...	.....	...	5	15	
Do., S. Katras P. O.	Do.	...	Do., do.	...	...	.....	...	24	16	
			Bengal (Giridih Coalfield)							
Bayra Coal Association Giridih P. O.	Lakharia or Bayra.	...	Bayra, Giridih, E. I. R.	Ernest Myers	...	.....	...	163	110	
Bengal Coal Co., Ld. 5, Fairlie Place, Calcutta.	Kuldiha	...	Kuldiha, Giridih, E. I. R.	W. J. Rees	...	.....	...	1,032	487	
Do. do.	Paharidih	...	Paharidih, Giridih, E. I. R.	Do.	...	.....	...	163	104	
Buriadih Coal Co. (Beni Mistri) Giridih P. O.	Buriadih or Churjka.	...	Buriadih, Giridih, E. I. R.	...	...	.....	...	34	22	
East Indian Railway Co. 105, Clive Street., Calcutta.	Kurhurbari	...	Kurhurbari, Giridih, E. I. R.	Thomas Adamson	...	.....	...	6,205	2,076	Includes figures for Serampur.
Do. do.	Serampur	...	Serampur, Giridih, E. I. R.	G. C. Lathbury	...	.....	...	...	...	Thomas H. Ward, Superintendent. Jas. Douglas, Agent.

Oriental Coal Co. Giridih P. O.	Burwadih	..	Burwadih, Giridih, E. I. R.	...	...	.....	...	...	...
Palapatra, S. C. Giridih P. O.	Burwalata	...	Do., Giridih, E. I. R.	...	...	.....	...	4	3
Tau, R. D. Giridih P. O.	Buriadih	...	Buriadih, Giridih, E. I. R.	...	...	.....	...	30	13
Bengal—(Daltonganj Coalfield).									
Bengal Coal Co. Ld. 5, Fairlie Place, Calcutta.	Rajhara	...	Rajhara, Palamau	H. M. Bull	...	.....	...	546	296
Central Provinces.									
Government of India Warora P. O.	Ballarpur	...	Ballarpur, Chanda, Railway Station, Warora.	R. Wordsworth	...	.....	...	13	48
Do. do.	Warora	...	Warora, do. do.	Do.	...	.....	...	586	454
Great Indian Peninsula Railway Co., Mohpani P. O.	Mohpani	...	Mohpani, Narsinghpur, Railway Station, Mohpani.	F. L. G. Simpson	...	.....	...	464	200
Mineral Syndicate of Bombay	Luchkura	...	Luchkura	...	...	.....	...	...	38
Pench Valley Coal Co., Ld.	Chandametta	...	Chandametta, Chhindwara	F. I. L. Ditmas	...	.....	...	...	...
Punjab.									
Dass, Bhagwan Ram	Katha	...	...	...	...	.....	...	220	340
N. W. Railway	Dandot	...	Dandot, Jhelum	D. Thomson	...	.....	...	843	386
Sheik Mehdi Shah Attock P. O.	Choi	...	Choi	...	...	.....	...	10	12
Do	Loorug Salur	...	Loorug Salur	...	...	.....	...	10	6
Singh Lakshmi and Deva Abbottabad P. O.	Chitidaud	...	Mukrach, Jhelum	Kirpa Ram	...	.....	...	131	26
Do. do.	Dholadhur (small)	...	Ara, do.	Ram Saran	...	.....	...	24	11
Do. do.	,, (large)	...	Do., do.	Do.	...	.....	...	7	...
Do. do.	Hasanwalla	...	Do., do.	Do.	...	.....	...	5	...
Do. do.	Laphi	...	Kandwal, do.	Mangal Singh	...	.....	...	10	3

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								Below ground.	Above ground.	
			Punjab—*concld.*							
Singh, Lakshmi and Deva Abbottabad P. O.	Mithachoya	...	Ara, Jhelum	Ram Saran	...	.....	...	30	14	
Do. do.	Morjhang	...	Sardi or Morjhang, do.	Mangal Singh	...	.....	...	9	3	
Do. do.	Nilawaha No. 1	...	Kandwal, do.	Do.	...	.....	...	12	4	
Do. do.	,, ,, 2	...	Do., do.	Do.	...	.....	...	8	3	
Do. do.	West Chiti Daud No. 1.	...	Ara, do.	Kirpa Ram	...	.....	...	...	...	
Do. do.	West Chiti Daud No. 7.	...	Do., do.	Ram Saran	...	.....	...	31	7	
			Assam.							
Assam Railways and Trading Co., Ld. P. O. Margherita.	Ledo Valley, East.		Makum, Railway Station Margherita.	G. E. Harris	...	.....	...	266	118	
Do. do.	Do., West	...	Do. do.	Do.	...	.....	...	...	...	Figures included in Ledo Valley, East.
Do. do.	Namdang	...	Do. do.	Do.	...	.....	...	164	105	
Do. do.	Tikak	...	Do. do.	Do.	...	.....	...	227	149	
Do do.	Tirap	...	Do. do.	Do.	...	.....	...	...	...	
Do. do.	Upper Ledo	...	Do. do.	Do.	...	.....	...	170	104	
Maolong Lime & Coal Co. Ishamati P. O.	Ishamati	...	Sylhet	E. O. Simcock	...	.....	...	32	4	
			Baluchistan.							
Hossein Ali & Co. Quetta P. O.	Sor Range	...	Quetta	Hossein Ali	...	.....	...	18	4	
Ferozshah Quetta P. O.	Digari	...	Do.	.....	...	.....	...	...	...	

K. B. Burjorji D. Patel . . Quetta P. O.	Sor Range .	...	Do.	B. Dass . .	...	.....	...	60	25
Do. do. .	Mach . .	...	Do.	Khodha Baksh .	...	.....	...	...	...
North-Western Railway Co. . Khost P. O.	Khost . .	...	Khost	Arthur Mort .	...	.....	...	482	223
Sorabji & Co. . . . Quetta P. O.	Digari . .	...	Quetta	.....	...	.....	...	...	...
Do., do. . . .	Sor Range .	...	Do.	.....	...	.....	...	...	...
				Burma.					
Burma Coal Mines Co. . .	Let Kobin .	...	Shwebo . . .	.....	...	.....	...	36	58

ROYAL ASIATIC SOCIETY LIBRARY OF THE BOMBAY BRANCH

Department of Mines, India.

REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA,

Under the Indian Mines Act (VIII of 1901),

FOR THE

YEAR ENDING 31ST DECEMBER

1906.

BY

W. H. PICKERING,

Chief Inspector of Mines in India.



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FROM

W. H. PICKERING,

Chief Inspector of Mines in India,

TO

THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF COMMERCE AND INDUSTRY.

Dated Calcutta, 11th June 1907.

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1906.

EXPLANATORY INTRODUCTION.

The Indian Mines Act, 1901, extends to the whole of British India and regulates all mineral workings in that area which are either true mines worked underground, or open pits, quarries or excavations more than 20 feet deep, or any part of which extends beneath the superjacent ground.

To prevent misconception, it seems necessary to explain that this is a report relating entirely to the administration of the Indian Mines Act, 1901, and is not a complete statistical review of Indian mining and analogous industries :—

No official publication embodying such statistics is at present issued for India, but a Review of the Mineral Production of India was published in 1905, by the Director of the Geological Survey, for the six years ending 31st December 1903. In future this will appear as a Quinquennial Review. Some statistics relating to mines and minerals appear in the "Financial and Commercial Statistics of British India" published annually by the Director-General of Commercial Intelligence and appear about 12 months after the year to which they relate; and statistics of output of minerals beginning with the year 1904 are also given in the "Records of the Geological Survey of India." Figures for Mysore, where most of the Indian gold is raised, are given in the Report of the Chief Inspector of that Native State, and mineral statistics may also be found in the administrative reports of the various Presidencies, Provinces, and States of India. From this year the Chief Inspector of Mines will be responsible for the collection of the returns for mines under the Act. This will, it is believed, make the statistics of the mines regulated by the Indian Mines Act, 1901, complete and trustworthy and allow a much earlier issue of this report in future years.

In some of the Mines Department reports previous to the year 1904 a few statistical tables relating to mines in Native States, and to workings not regulated by the Act, were given, but as it is not possible to obtain accurate figures in time for the date prescribed for the issue of this report, they have been again omitted.

The scheme for the 1904 report has been slightly modified by the removal of all statistical tables to the appendices from the body of the report.

The report is divided into five sections, *viz.* :—

Section I.—Persons employed;
„ II. – Output of mineral;
„ III.—Accidents;
„ IV.—Prosecutions, discipline, and additions to the Act;
„ V.—General remarks;

followed by five appendices, *viz.*, Appendix I, list of fatal accidents; Appendix II, detailed statistical information relating to mines regulated by the Indian Mines Act, 1901; Appendix III, miscellaneous information; Appendix IV, new Rules made under the Act; Appendix V, a list of coal mines, owners, and managers.

Section I.—Persons employed.

During the year 1906, the average number of persons working in and about mines regulated by the Indian Mines Act was 128,666, of whom 80,158 worked underground, and 48,508 on the surface; 83,053 of the persons were adult males, 39,582 adult females and 6,031 children under 12 years of age. Compared with the preceding year an increase of 17·4 per cent. or of 19,079 workers is shown.

The development of labour in a new industry is of great interest both from an economical and from a psychological point of view. This is especially the case in India where the all-round handy-man is rare, and where labour, for the most part, runs in the grooves made by caste and long custom.

The caste system has made the Indian a natural specialist. This is likely to increase the efficiency of the workers, considered as a whole, when the industry has reached the stage where division of labour or specialisation is desirable; but it will be necessary, if the full value of this is to be obtained, for those responsible for training the workers to make intelligent use of the gifts and peculiarities of the people.

Mining, particularly coal-mining, is a new industry in India. Though the first coal mine was opened in Bengal in 1820, the true development of the industry has taken place in the last decade. Miners of the second generation, therefore, form a very small percentage of the mining population.

Mining is, in most cases, a bye-product occupation for the Indian. The miner is commonly the occupier of a plot of land upon which he can raise enough food to provide for his modest wants. Owing to the rapid increase of the mining population in the coal-mining districts, it is palpable that in the near future, all the land near the mines, capable of raising crops will be under cultivation, and that the miners will be obliged to depend solely upon mining for their livelihood. There are many other signs which point to the conclusion that the evolution of a mining caste or class has already begun. Mine managers can help this evolution to develop on the proper lines if they will take the personal trouble to study the prejudices and customs of those under their charge. This is of the greatest importance, for it is comparatively useless to introduce improvements in appliances and machinery if "the man behind the gun" is not efficient. That the Indian is capable of acquiring considerable skill, in most mining operations, is evident on every hand. Examples may be given :—

Wire-rope splicing is important work at large mines. It requires considerable skill, and is usually only entrusted to highly paid men. The following information was kindly supplied by Mr. T. H. Ward :—

"In the East Indian Railway Collieries, recently, the fact that an endless rope installation of considerable magnitude is approaching completion made it a matter of great importance to train a staff to make a "long splice" rapidly and efficiently. Two men, who had shewn aptitude in making the splice hitherto in vogue,—a system of lacing the strands resulting in a thickening of the rope to double its diameter at the splice, which has been used in repairing ropes on direct engine planes, but which is very inefficient and quite unsuitable where turn-pullies have to be negotiated—were picked out to be trained, and in a few days were able to make a splice, 30 feet in length in a $3\frac{1}{2}$-inch steel rope, so perfectly that it was impossible to see where they had been working. The work was done with great rapidity and deftness. Their wages, 5 and 6 annas, respectively, were increased to 7 and 8 on the spot. These two men will be utilized

to train the class of men known as "fitters in charge" who will now be required to qualify in splicing."

In the rougher, but still skilled work of getting and filling the coal there is evidence of progress. In handicraft and manual labour the Indian's method of handling tools is, as a rule, the reverse of that of western races. He prefers the pull to the thrust. The Indian adze-like spade is a good illustration of a tool made to suit the instincts of the user. In a few instances (*e. g.*, sawing) the pull is better than the thrust, and the lighter European saws would be better if the teeth were set on the Indian pattern. But in most classes of manual labour, the thrust is most effective. This is very marked in spade work. That the Indian can be induced to abandon the tools of his forefathers, is seen in most Indian collieries where English shovels are commonly used, and where the pointed crow bar has been replaced by double pointed picks. In many cases the miners are becoming more skilful in using these tools. This is particularly the case in the Makum coal mines, Assam. In this coal field no local labour is available, and all the coolies are imported from Bengal. They are far removed from the influence of their natural environment, and give full time to mining, working in regular shifts. This has the effect of making them more ready to adopt novel methods of work. In loading coal into the tubs underground they have become so remarkably expert with the shovel that an average English loader would have to do his very best to beat them. Most of the loaders are women, and it is not uncommon for two of them working together, to load 50 tubs of 11 cwt. each, or 27 tons 10 cwt. of coal, in a shift of 8 hours. In my presence, two women loaded a tub of 11 cwt. in 4 minutes.

When it is remembered that India is as large as Europe with Russia left out, and that the mines of Burma are some 2,000 miles from the mines in Baluchistan, it is not surprising that the habits, characteristics and efficiency of the miners differ very greatly. Mining labour is not yet settled, but so far as can now be guessed, the Punjabis, the Santhals of Chota Nagpur, and the Telegu speaking natives of Madras are likely to become of the greatest economic value as regards mining. The Burman has been described as being "incorrigibly lazy." This hardly appears to be the fact. The Burmans are small but are strong and of an athletic build, and when working for their own hands in the Ruby mines or oil fields, where they have hereditary rights, they show considerable energy and skill. For example, their method of timbering the shafts is effective and ingenious. The country is at present so thinly populated and is so rich and fertile, that the Burmans are not tempted to sell their labour to the mines. But perhaps the happiest mining district in the world is to be found in Burma. It is at Mogok where the rubies are mined. In other parts of India there is a chronic scarcity of labour, here the supply is unfailing. A large number of Burmans work with their families in the native mines and some are in the service of the Ruby Mines Company, which is the only firm working on a large scale. However, most of the 2,367 workpeople in the employ of this firm are Shan-Chinese who come 15 or 20 days' journey to the mines. Their wages are Re. 1 a day without any deductions. No allowances, except a free supply of excellent water, are given, and they make their own housing arrangements. An attempt was once made to alter the conditions of employment. The workmen made no complaint, but they did not come to the mines. The simple rupee commends itself to their minds, and they come in freely without any recruiting or other inducement. Many are settling in Mogok with their wives and families. They are very strong muscular men, hard and steady workers and are cheerful and amenable to discipline. They and the Burman agree very well, neither being troubled with caste prejudices and being somewhat alike in temperament. An air of cheerful prosperity covers all the workers alike, and is the most pleasing feature of this outlying mining district.

Although the demand for labour in Indian mining districts far exceeds the supply, Indians are drifting to the South African mines in increasing numbers. During the year 1905, 2,307 Indians were employed in and about Natal coal mines. This drain involves serious possibilities so far as India is concerned, and I, therefore, communicated with Mr. Gray, the Commissioner of Mines, Pietermaritzburg, and I am indebted to him and to the "Protector of Indian Immigrants, Natal," for valuable information. The Indians are induced

to cross the sea by the offer of higher pay, shorter hours and better housing. They are not specially recruited for the mines, and are, for the most part, agricultural labourers in India. Those from the districts about Madras are preferred. (The probable reason for this preference is that they speak English.) The average Indian is inferior to the average Kaffir until he has worked for about a year in the mines. He then becomes slightly superior, for, though his strength is far less, he is more skilful. Mr. Gray remarks "the great advantage of Indian labour in comparison with native Natal labour is that it is more reliable, as the Kaffir labourer works for a few months and then returns to his kraal for an indefinite period."

The rules relating to labour, dwelling and sanitation of Natal mines are given in Appendix III. It is evident from these regulations, that accommodation is given to the Indian in Natal very superior to that which is provided at Indian mines. If labour is to be attracted to the mines and induced to settle there, more suitable housing accommodation will be necessary in most cases. The Indian leaves his place in the jungle to come to the mines. The hut he has left is rough and poor enough, but it is built to his own design and is clearly a *home*. The quarters which he will find in the line of coolie godowns at most mines, cannot be dignified by such a name. They are often substantially built, but no attention is paid to the tastes and desires of the tenants. In most cases, the almost necessary verandah is not provided. There is no shade of any kind. The Indian miner earns good wages, but to him money is not everything. He is sensible enough to consider comfort, and this is one reason which draws him back to his old home where he can take his ease in congenial surroundings.

At some of the mines where attention is paid to housing and sanitation, special sweepers are employed to keep the surroundings neat and clean. This is much appreciated by the miners, especially by those who are prevented by their caste from doing such work.

Section II.—Output of Mineral.

A glance at the tables given in Appendix II will show that there has again been a large increase in the output of all important minerals raised from mines regulated by the Indian Mines Act. The percentages of increase are:—Coal, 17·4; mica, 97·4; manganese ore, 113·7; gems, 49·2; salt, 25·4.

COAL.

Compared with the preceding year, a striking and significant increase of 1,349,884 tons or 17·4 per cent. is shown. The output amounted to 9,112,663 tons. Of this 8,617,820 tons or 94·57 per cent. were raised in Bengal, exceeding the output of the preceding year by 1,383,717 tons.

Reference to table 8 in Appendix II will show that the remarkable expansion of the output has enabled India to easily maintain her position at the head of the coal producing dependencies of the British Empire. If the 670,587 tons raised from mines in Native States are added India's lead is still more striking.

The coal trade of Bengal was abnormally active during the year, and, as the demand for coal was greater than the supply, high prices were obtained. The expansion of the trade during the past five years has exceeded anticipation. In such circumstances, it is perhaps inevitable that the arrangements for loading and despatching the coal should be, in most cases, nebulous, and that the supply of wagons should be inadequate and irregular. When these evils are remedied, the mines will be in a position to meet a greater demand. This will have the effect of keeping prices at a healthy level. Cheap fuel and abundant supplies are essential to the industrial development of India.

The great demand for coal encouraged the working of second class quality seams, especially in Jharia where outcrops of seams are very numerous. This is a passing phase, for in mining the best is always taken first, and it is certain that future developments will be in the direction of following the first class seams to greater depths. It is important, therefore, that the question of the prevention of waste in working these seams should receive careful attention.

As will be seen when compared with last year there were substantial increases in the output of coal in Assam, Baluchistan and the Punjab; but a reduction of nearly 54,000 tons will be noticed in the Central Provinces. This reduction is due to the loss of Warora coal mine, described in pages 12 to 14. The active development of the Pench Valley coal-mines prevented the reduction from being more marked. During the year under review, 32,102 tons were raised from these mines, though in the preceding year they had hardly passed the prospecting stage, and only produced 1,103 tons. With the further development of these mines and of the new winnings at Ballarpur, the output of the Central Provinces is certain to increase greatly in the near future.

MICA.

A remarkable increase in the output of mica is recorded, the production having risen from 25,548 cwts. in 1905 to 50,438 cwts. in 1906, or an increase for the year of 24,890 cwts. This increase is largely due to the fact that the demand for small mica films noted in last year's report, has further expanded. Small mica, which formerly was thrown away, is now saved, the result being that a greater output is produced by a smaller number of workers.

MANGANESE-ORE

Apparently, Indian manganese-ore has obtained a firm hold of the markets of the world, for the output was more than double of that of the preceding year, having increased from 204,194 tons to 436,442 tons. It is a regrettable fact, that practically the whole of the manganese-ore is exported, and that, therefore, India receives only a small percentage of the profit which the possession of large deposits of a mineral of such great potential value should legitimately give her.

GEMS.

The output of gems from Burma ruby mines increased from 217,420 carats in 1905 to 324,410 carats in 1906. The output is entirely from the Mogok mines of the Burma Ruby Mines, Limited. The increase justifies the policy, now adopted by that Company, of systematically working and washing the whole of the deposits of sand, mud and gravel in the Mogok valley, instead of trying to find rich pockets of gems.

The Burma Ruby Mines, Limited, is the only Company working on a large scale, but there are very numerous mines and washings in the Mogok district worked by Burmans who have hereditary rights. Some of these workings are "mines" within the meaning of the Indian Mines Act, but, at present, it is not possible to obtain figures of labour and output. It is certain, however, that large quantities of gems are obtained, some of them being rubies of great value.

GOLD.

The mines in the Dharwar gold-fields are developing on sound lines, but though ore was raised during the year, none was crushed. A considerable output of gold may be expected during the current year.

OTHER MINERALS.

An increase in the output of salt is shown and a decrease in limestone. No particular significance need be attached to these fluctuations.

The copper mines in the Central Provinces have not reached the producing stage.

A lead mine was started at Sambalpur, but only a sample of ore was raised. Lead is a new mineral under the Indian Mines Act.

Section III.—Accidents.

GENERAL REMARKS.

During the year 1906, at mines regulated by the Indian Mines Act, 1901, there were 84 fatal accidents involving the loss of 106 lives, being the greatest loss on record for British India. Compared with the average for the five years

during which the Act has been in operation, this is an increase of 20 in the number of accidents and an increase of 29 in the number of deaths. The increase is due to the expansion and activity of the mining industry and to the increasingly difficult and dangerous conditions of mining work.

Of the persons killed, 91 were males and 15 females. In addition to these deaths, fatal accidents to 12 persons who were not employed at the mines, or who met with their deaths in abandoned mines, were reported. A list of these appears in Appendix I, and reasons are given for their exclusion from the statistical tables. The particulars of one of these accidents by which three lives were lost, are given under the heading of collapses of workings, pages 14—15.

Coal mining, as regards importance, is far in advance of other mining operations. It has the most latent dangers, and it is not surprising, therefore, to find that 80 of the deaths or 75 per cent. of the total happened in these mines. The deaths in other mineral workings were :—5 in gold ; 10 in mica; 6 in manganese ; 4 in ruby; and 1 in slate mines. Of the persons killed, 51 lost their lives by falls of roof and side ; 20 in shafts ; 11 by haulage ; 4 by explosions of fire-damp ; 4 by explosives ; 7 by other accidents under-ground ; and 9 on the surface.

The death-rate per thousand persons employed works out to 0·82 being an increase compared with the figure of ·64 for the preceding year. The rate is still low, but it must be remembered that the Indian spends only a part of his time in mining. The deeper and more strenuous mining which is rapidly coming into being in India, is certain to raise the death-rate and this tendency can only be checked by reasonable discipline and skilled supervision. Several accidents, with the sinister possibilities of serious mining disasters involving the loss of large numbers of lives, occurred during the year. A glance through the summarised accounts of the accidents given in the appendix, and the more detailed accounts of a few in the body of the report, will show that in some cases supervision is so lax as to be useless. Some of the accidents could not have been avoided by reasonable human foresight, but others were due to improper mining methods and failure of applicances (see Nos. 2, 15, 18, 26, 27, 33, 39, 44, 50, 56, 69, 71 and 82) ; others to want of supervision (see Nos. 1, 2, 3, 4, 31, 34, 39, 44 and 81) ; others to carelessness or ignorance of the miners, going beyond fences, etc. (see Nos. 11, 16, 17, 19, 20, 28, 47, 51, 57, 58, 59, 61, 64 and 65).

Each fatal accident is briefly described in Appendix I, but the following additional remarks and explanations are necessary.

EXPLOSIONS OF FIRE-DAMP.

During the year, two accidents due to explosions of fire-damp, involving the loss of four lives and injuries to two persons, were reported. They were all caused by the use of naked lights, and the failure of officials to attend to the details of ventilation.

So far, explosive gas has only rarely been found in Indian Coal Mines, but it is certain to be far more troublesome in the near future when the workings will have reached a greater depth from the surface. Many of the Indian mining officials and most of the miners, are absolutely without experience of this subtle and dangerous enemy, but it is hoped that the lectures of the Mining Instructor in the Bengal coal-fields will spread useful information on the subject. There is no reason why the elementary precautions of providing adequate ventilating power, of properly conducting the air-current to all parts of the workings, and of using safety lamps in places where gas is likely to be found, should not be taken at once. It was placed on record in last year's report that the miners prefer good ventilation, and it was recently found that in a Bengal Coal Mine the miners were using safety lamps from choice.

It must not be forgotten that the fact that coal-dust plays the most important part in disastrous colliery explosions, perhaps, started by the ignition of a small quantity of fire-damp, is established beyond question. The Courrières explosion in France, by which 1,100 lives were lost, occurred during the year. In this mine explosive gas was almost unknown, and the explosion was probably due to coal dust alone, the initial ignition being from a puff of gas or the flame from a shot.

The details of the two explosions which happened during the year are as follows:—

No. 1 in the list. This accident happened at No. 7 pit, Sodepur coal mine, in the Deshargarh seam, which is worked at a depth of 428 feet from the surface.

As is the custom in most other collieries in the Raniganj coal-field, no regular shifts are worked, but the gangs of miners go to their working places at the time most convenient to themselves. At 7·30 on the 17th June, five miners went down the pit and proceeded to a rise working where they intended to work. As soon as they reached the place, an accumulation of fire-damp was ignited by the naked lights which they were carrying. All the five men were burned, three of them so seriously that they died of their injuries.

Though there was evidently a considerable volume of flame, the explosion was very feeble, clearly pointing to the conclusion that the gas was comparatively pure, for unless fire-damp is mixed with air in certain proportions it will not explode. It is said that the place was examined by the sirdar an hour before the accident, but if this were so the examination must have been perfunctory, for the fire-damp was not discovered.

An adequate ventilating current of 16,500 cubic feet of air per minute was passing along the level, but no means were taken to divert it into the working in which the accident happened. A sketch of the place of accident is given at the end of the report, and also a supplementary sketch showing how the place could have been ventilated by a very rudimentary arrangement. After the accident the ventilating power was increased, and safety lamps substituted for the open lights in the district.

The lessons to be learned from this accident are:—the importance of inspection by competent men, the careful nursing and directing of the air-current into every part of the mine, and the use of safety lamps in places where there is danger from explosive gas.

No. 2 on the list happened at Chora coal mine in the Chora seam, one life being lost.

A very small gallery, only 3½ feet square, had been driven 100 feet in advance of the main gallery. The deceased went into the place to remove dust coal. He was using a naked light which fired an accumulation of fire-damp, and he was so badly burnt that he died 14 hours afterwards. Even in the main gallery, the ventilation was not satisfactory, and no attempt had been made to divert the feeble air-current into the place of accident.

FALLS OF ROOF AND SIDES.

Accidents from this cause resulted in the death of 51 persons, 30 of the deaths occurring in coal mines. Twenty-four of the deaths were from falls of roof and 27 from falls of side.

In the Bengal coal mines the roof is so strong that timbering is seldom required, except when the pillars are being extracted, but in the Assam and Punjab coal mines and in the Dharwar gold mines, skilled timber setting is required.

In the coal mines of England and of the continent of Europe where a treacherous roof is the rule, systematic timbering has lately been strongly advocated to reduce the heavy death-rate from falls of roof and sides, and in England, special rules regarding systematic setting of timber in all coal mines, recently came into force. Several systems have been advanced as models. It is a pleasure to place on record that in the Punjab coal mines where the conditions are somewhat similar to those of England, a system of timbering which will compare favourably with any in the world has been adopted. A plan showing the timbering of an actual working place in Dandot coal mine is given at the end of the report. I am indebted to the Manager, Mr. Thomson, for having had it made. At this mine the timber is set and drawn entirely by Indians, and the system is so well carried out that during an inspection (extending over several days) no fault could be found with it. The seam is from two to three feet thick and is worked by the long wall method. Wooden "chocks," 2-feet square, are built at a distance of 4 feet 6 inches apart, measuring from centre to centre. Props are set in advance the same distances apart, and these form centres for the chocks as the work progresses. Planks 1½ inches thick and 6 inches wide

are set above the chocks and props and kept close to the face. Thus the miners are always protected by timber when working. The timber is set by specially appointed men.

The following accidents from falls require more comment than can be given in the appendix.

No. 15 on the list, which happened at Begunia coal mine, caused the death of three women. This is an old mine, and it had been worked without any regard to proper mining methods. Very shadowy supervision was exercised, even when the dangerous work of extracting the pillars was in progress. The workings were so badly designed that it would have been quite impossible to work out the pillars in safety without most close and elaborate timbering. As might have been expected, a large area of roof fell whilst the miners were pillar-cutting and three of the women coal-carriers were killed. The difficult and dangerous work of recovering the bodies was successfully accomplished some days later under the directions of Mr. Simpson. A plan of the place is given at the end of the report.

The investigation of the accident disclosed such serious and long continued disregard of the rules that legal proceedings were instituted against the responsible persons. The result is given under "prosecutions" in Section IV.

No. 39 on the list happened in Garbham manganese mine. This mine is a shallow open quarry, and the system is to remove the overburden and to work the quarry in steps. This method of working is both safe and economical, but unfortunately was not always carried out, for on the day of the accident, eight miners were working at the bottom of the quarry under a place where the overburden had not been removed. Some were undercutting the manganese when a heavy fall occurred, killing five persons and injuring three others.

Reasonable supervision would have prevented this accident.

No. 18 on the list happened at Kusamkanali coal mine, one woman being killed. The sirdar had examined the place of accident and had found the roof to be unsafe and had reported the fact to the manager. Nevertheless, the women coal-carriers were allowed to pass under the dangerous roof. They were not sufficiently experienced to realize the danger, and one was so unsuspicious that she rested in the place. Whilst she was doing so, a huge piece of rock fell upon her and killed her.

The question of the punishment of the responsible persons is under consideration.

SHAFT ACCIDENTS.

The fact that 20 persons lost their lives from accidents of this class, in coal mines, is discouraging, for it must be remembered that at present many of the mines are so shallow that the miners can walk into them down inclines.

Indian miners, being new to the calling, have a natural fear of descending by shafts and prefer to walk into the mines. Apart from questions of humanity, it is essential to the development of the deeper seams that nothing should happen to increase the dread of descending by machinery. At present it is being slowly removed.

In the case of accident No. 45 on the list, the regular engineman allowed another man to try his prentice hand with the winding engine whilst six persons were being lowered into the mine. The result was that he lost control of the engine, and the descending cage was dashed so violently on the pit bottom that two of the persons in it were killed and the other four seriously injured.

In another case, two persons were seriously injured in a similar way, through the engineman slipping when he was pulling over the steam reversing lever.

The other fatal accidents are sufficiently described in the appendix, but one which caused no personal injury nor loss of life may be mentioned, for it conveys a lesson and a warning.

A sinking pit at a Jharia Colliery had reached a depth of 406 feet and had been connected with a sister pit. The engines were coupled cylinders, 20 inches in diameter with 48 inches stroke, and the cranks were on the drum shaft. The drum was 9 feet in diameter. The winding rope was 1 inch in diameter and was fitted with King's patent detaching hook. The steam was raised in two Lancashire boilers with a pressure of 100 lbs. per square inch. On the 8th August, a winding engineman overwound a bucket containing 10 cwts. of coal. The

detaching hook acted perfectly, and the bucket was hung in the pit frame, whilst the rope came into the engine house. The engineman left his post and rushed out of the engine house without shutting off steam or applying the brake, and the lashing rope did serious damage before the engines were stopped. The engineman gave no good reason for his mistake, but it is probable that he was not paying sufficient attention to his work, for temporary forgetfulness on the part of the engineman is the usual cause of such accidents when the machinery is in proper order, as was the fact in this case. Sinking shaft winding ropes are not usually fitted with detaching hooks in India, but when it is mentioned that from 10 to 15 men are commonly employed at the bottom of such shafts, and that the fall of the loaded bucket would probably kill most of them it will be realised that this accident gives a broad hint to managers to fit the ropes of all sinking shafts with detaching hooks.

Rule 25 of the rules applying to coal mines provides that when the winding apparatus is not fitted with some automatic contrivance to prevent overwinding, the cage, when persons are being raised, shall not be wound up at a speed exceeding three miles an hour after a point in the shaft, to be fixed by special rules, has been reached. This rule has been taken *verbatim* from the English Act, and in England a detaching hook has always been considered to comply with the rule. Strictly speaking, it does not, for it only prevents some of the effects of overwinding and has no effect so far as the descending cage is concerned. Several apparatus have been designed to automatically cut off the steam and apply the brake when the proper speed of the engine is exceeded, or when the cage or load has reached a certain point in the shaft. These apparatus are used at a number of mines in the continent of Europe, but in England they are fixed to winding engines in only one or two instances. Reliance at home is placed upon the highly trained and highly paid men who work the engines. Such skilled enginemen cannot be produced in India in sufficient numbers for many years, and it is worth while, therefore, for those who are erecting powerful engines for deep winding to give attention to the question of fitting the engines with automatic brakes and cut-offs.

EXPLOSIVES.

Except in shaft sinking, explosives are at present little used in Indian mining, but the development of the Dharwar gold-mines will eventually require extensive blasting. Two of the four accidents from explosives happened in these mines, and both were caused by the miners striking the charges of shots which had previously missed fire. In one case, a driller was drilling in the socket of a missfired shot, and he was killed by the explosion which followed. Seven other men were injured. The evidence in the other case was not conclusive, but it is probable that the deceased struck a charge of gelignite from a missfired shot. The question of the best way of dealing with missfires is under consideration.

SUFFOCATION BY GASES.

Four persons lost their lives by accident No. 60 on the list. The accident happened at Upper Ledo mine in Assam where a seam of coal, varying in thickness from 50 to 80 feet, is worked by means of drifts driven into the outcrops. The main roads extend to a distance of over a mile from the entrance and the workings are fairly extensive. The seam is worked in two sections by a modification of the South Staffordshire square-work, and the top section is removed first. As the coal is very liable to spontaneous combustion, substantial "ribs" or barriers of solid coal are left, and provision is made for isolating each opening or square by means of masonry dams in the entrances. The dams are built as soon as a square is finished or when the fallen coal fires spontaneously.

An adequate ventilating current is produced by means of a fan, and the air current is properly nursed and conducted through the workings. On the 29th March, the undermanager noticed that some dams, which were isolating a fire, were leaking, and in obedience to his orders, three new dams were built. They were finished on the night of the 30th and the leakage stopped. On Saturday, the 31st March, the mine stopped working and all persons were out of the workings by 4 P.M.

A night shift, consisting of eight men in charge of a sirdar or native overman, went to work at 8 P.M. Four of the men were coal-cutters and the other four were labourers to do any work the sirdar considered necessary. Two men were left on the surface in charge of the ventilating apparatus.

At about 3 A.M. on Sunday, the 1st April, a fireman accompanied by his mate and a sirdar, came to the mine to make the usual morning examination of the workings. He found the ventilating fan almost stopped, and the steam low in the boilers. The two fan attendants were asleep. He woke them and ordered them to get up steam with all speed. He and his mates then went into the mine to the end of the haulage road, a distance of 1,500 yards from the entrance. As the air-current was not brisk, they waited for a few minutes for the ventilation to improve. The air began to flow better, and they went 200 yards further into the mine where they found two coal-cutters working in a cross-cut out of the main intake air-way. These men had noticed nothing wrong. The fireman and his mates then went 50 yards further into the mine, and found it was so foul with noxious gas that their lights would not burn. Therefore, they returned to the end of the haulage road with the object of getting into the workings another way. The ventilation had then improved greatly, and they were able to get to the dams where they knew the sirdar and his men would be working They found no one at the top dam, but 10 yards below and 3 yards from the middle dam, they found two men lying dead. They were lying on bags, and appeared to have been suffocated whilst they were sleeping About 12 yards further, they found two men sitting with their backs against the side, they were alive but were insensible; 70 yards further, they found the sirdar lying on bags obviously arranged for bedding. He was insensible. About 6 yards away they found two men lying dead on a heap of small coal. The living and dead were removed as quickly as possible into the main road. A message was sent to the undermanager, who was soon on the spot. When he examined the mine he found the top dam was leaking, but not very seriously, and it was easily made gas-tight.

The sirdar's story is that he found two of the dams leaking, he plastered one, but could not get to the other because the gas was too strong. He then withdrew as he felt dizzy, and he remembered nothing else. In the light of the circumstantial evidence this account can hardly be believed. It is probable that after the sirdar and his men had done a little work, they decided to have a rest, and as they were in the fresh air-current, they anticipated no danger. However, when the ventilating current stopped, owing to the neglect of the fan attendants, the foul gases, generated by the fire beyond the leaking dams, flowed upon them whilst they were asleep. They must have died without waking, and no doubt the timely arrival of the fireman saved the three insensible men from death. The gas would be a mixture of carbon mon-oxide and carbon di-oxide, a very deadly combination, as one per cent. of the former in air is speedily fatal to life, and it is a cumulative poison. Life cannot be long supported in air containing over 15 per cent. of carbon di-oxide.

The sirdar and the fan attendants were prosecuted by the Assam Police, under section 304 (*a*) of the Indian Penal Code, for having been guilty of a rash and negligent act. The result is given under "prosecutions" in Section IV.

A plan showing the workings in which the accident happened, and the ventilating arrangements will be found at the end of the report.

HAULAGE ACCIDENTS.

Eleven persons were killed by underground haulage accidents. No. 69 on the list may be specially mentioned as pointing a moral.

At a Sitarampur mine an old incline was being re-opened. Very improperly, an old, dangerously worn and corroded wire rope was considered fit to be used as a temporary haulage rope. A set of four tubs was being lowered into the mine when, as might have reasonably been anticipated, the rope broke. The tubs ran amain, and a miner, who was walking up the incline, was run over and killed. No refuge holes were provided in the incline, for this work had not been considered urgent. It cannot be too often repeated, that makeshift appliances should never be used when life depends upon them. In any circumstances, their use is false economy.

SURFACE ACCIDENTS.

There were nine deaths from surface accidents. Only one requires special mention.

No. 82 on the list happened at Jamadoba Colliery, Jharia, on 16th June, and caused the deaths of two men and serious injuries to another man. A chimney was being built and had reached a height of 58 feet. Four men were working at the top when the chimney suddenly collapsed, and all the men fell to the ground with the bricks and scaffolding. A European eye-witness, who was close to the place at the time of accident, heard a "crackling sound" and looking up he saw the chimney bulging in the middle and it collapsed immediately. The chimney had a good foundation, was of a proper design, the brickwork was of sufficient thickness and the bricks fairly strong. An examination of the so-called mortar after the accident, showed that it had not adhered to the bricks and that it could be easily crushed with the fingers. Such mortar, instead of binding the bricks together would be almost a lubricant, and would allow them to slip from their position. This was the probable cause of the accident. It is likely that inferior lime, which had been slaked for some time, had been used, and that the bricks had not been sufficiently wetted. It does not appear to be always understood that the setting of mortar is due to a chemical change and not to drying. This change will not take place unless the lime is fresh, nor will mortar adhere to bricks unless they are wet when used.

Section IV.—Prosecutions, and Additions to the Act.

(*a*) ADDITIONS TO THE ACT.

During the year under review, 28 new rules were added to the Act by Notification No 2968-82, dated 21st April 1906. They apply to coal mines only, and relate to the certificates, the conditions on which they are granted, and the qualifications which the managers of various classes of mines must possess.

The rules provide for the constitution of a Board of Examiners for the purposes of granting certificates. The certificates are of two kinds, namely, certificates of competency and certificates of service, and of two classes of each kind. Holders of first class certificates may act as managers of any coal mine, but holders of second class certificates are only qualified to manage mines in which less than 150 persons are employed simultaneously or the average output of which is less than 1,800 tons a month. For mines with less than 50 persons employed underground simultaneously, or with an output of less than 600 tons a month, it is sufficient if the manager is the holder of a "Permit" from the Chief Inspector.

The power of granting the certificates is vested solely in the Board of Examiners who are a controlling rather than an examining body. Provision is made for granting certificates of service to persons who have acted as managers of mines for specified periods previous to the rules coming into force, and to certain holders of foreign certificates. Other persons can only be granted certificates after an examination and they must be qualified by practical experience.

The code is made elastic by several rules giving discretionary powers to certain persons and in emergent cases. An account of the constitution and work of the Board is given in Section V.

(*b*) PROSECUTIONS.

Only one prosecution directly under the Act was instituted during the year. This was for the serious violations of the rules in connection with the fatal accident at Begunia coal mine by which three persons were killed and four otners injured. The accident is described on page 8. The charges were, for not making the roof of a working place safe, for irregular reports of the examination of the mine, for failure to fence workings and entrances, and for failure to keep accurate plans and a copy of the rules.

There was some difficulty in fixing responsibility, as the rules requiring the notice of the appointment of a manager had not come into operation. As the violations were very serious and had been long continued, all the owners as well as the agent and manager were charged with the object of discovering the responsible person or persons. The case was tried at Burdwan and, after a hearing extending over six days, convictions were obtained on all the counts. The four owners were fined Rs. 400 each, under section 22(*1*) (*e*), and Rs. 100 each, under section 22 (*3*), and the manager and agent were fined Rs. 25 each, under section 22 (*1*) (*e*). The Court directed that out of the fine, if realized, a sum of Rs.400 should be made over to the Chief Inspector of Mines for payment to the relatives of the deceased and to persons injured, these persons being also complainants. The money to be allotted "in such proportions as the Chief Inspector may deem expedient as compensation for injuries sustained."

The case was fully and ably defended and many legal points were raised. The Magistrate who heard it took very great pains, and before delivering judgment, made a personal visit to the mine. As the case is likely to be useful for reference and as a guide, the judgment is given in the appendix, page 61. The defendants appealed against the decision of the Magistrate. The appeal was heard by the Judge of Burdwan who has not yet given his decision.

Another prosecution though not under the Act may be mentioned. It was in connection with the accident at Upper Ledo coal mine, described on pages 9 and 10, by which four lives were lost.

In the absence of special rules defining and assigning the duties of the officials and work people, it would have been difficult to formulate a charge under the Indian Mines Act. The Police took up the cases and charged the responsible persons, under section 304(*a*) of the Indian Penal Code, with having been guilty of a rash and negligent act. The cases were heard at Dibrugarh before the Assistant Magistrate who discharged the sirdar because there was not sufficient direct evidence against him, and the assistant fan attendant on the ground that he was not responsible. The head fan attendant was, however, committed to the Dibrugarh Sessions where the case was heard by the Judge sitting with a Jury. The defendant was convicted and sentenced to two years' rigorous imprisonment.

Section V.—General Remarks.

COLLAPSES OF COAL-MINES. A SERIOUS DANGER. LOSS OF WARORA COLLIERY.

In the 1905 report attention was drawn to the serious dangers from sudden collapses of workings due to defective methods of work, and several cases which happened during the year were described. Unhappily there were more instances of these accidents during the year, and in the case of Warora colliery the result was the closing of an important mine. No lives were lost in this accident, but it may be usefully described for it conveys a lesson with great emphasis.

Warora colliery is situate at Warora in the Chanda District, Central Provinces. It has since its commencement been worked and owned by the Government of India. 917 persons are employed at the mine, of whom 556 work below ground and 361 on the surface.

There are two workable coal seams in the coal field, known as No. 2 and No. 3 seams. They are numbered in descending order. Each seam varies in thickness from 12 to 14 feet. The parting between them is from a few inches to 14 feet thick and consists of weak short grained shale. The roof over No. 2 seam is fire-clay, from 6 to 10 feet thick, and the strata above the fire-clay are, for the most part, coarse grained sandstones. There are occasional pockets and layers of quicksand in the strata, and the whole is saturated with water. The coal of both seams is hard and tough, and No. 3 seam rests upon a strong sandstone floor. The general direction of the dip of the strata is to the east, and the average inclination is 1 in 14. There are 7 shafts in communication with the seams.

Both seams have been worked upon the "bord and pillar" system, that is to say, the seams are cut into pillars by means of galleries with a view to the subsequent extraction of the pillars. The original pillars were for the most part supposed to be 60 feet square, the level galleries 12 feet wide, and the rise and dip galleries 10 feet wide. In each seam the galleries are driven in the bottom of the coal and are made 8 feet high, thus leaving from 4 to 6 feet of coal in the roof. In the early years of the colliery, uniformity of working was not always observed and in several parts of the mine small irregular pillars were formed. Both seams were worked at the same time, the workings of the one being above the workings of the other, but coincidence as regards verticality was not maintained throughout the pit, for it was found in practice that the galleries and pillars broke down and crushed more easily if they were superimposed upon each other. Except in a few areas, it has not been possible to extract the pillars entirely, but they have been split into four over a large area by drivings 12 feet wide in the level direction and 10 feet wide in the rise and dip direction and 8 feet high.

It was a radical and fatal mistake to work both the seams at the same time, for this caused the working to be unstable, and made the isolation of the fires most difficult. The present manager, Mr. Wordsworth, is not responsible for this, as the mischief was done before he took charge in 1892. The upper seam should have been worked first, as much coal as possible extracted, and the strata allowed to subside. When the subsidence had been allowed time to settle, the bottom seam could have been safely worked. Sufficient monthly output could have been obtained from either seam alone. If this principle of working had been followed, the life of the colliery would have been prolonged and a far greater percentage of the coal recovered at a less cost.

The coal contains iron pyrites and is liable to spontaneous combustion, and serious fires have broken out from time to time. The fire areas were surrounded by brick walls built in the galleries, and, though the fires were dormant, they were a distinct factor of danger, for they could not be effectively isolated, the rudimentary mining precaution of working the seams in districts with proper barriers of coal between each not having been taken.

On the 23rd March 1906, a large area of abandoned workings in the main dip from No. 5 pit collapsed, the pillars in both seams having given way. The fall extended to the surface and covered an area of 15 acres.

The air forced out by such huge falls has often the effect of an explosion, but in this case the workings which collapsed were partly filled with water, this reduced the air-space as well as cushioned the fall, and, though the air blast overturned tubs, blew out a stopping, extinguished all lights and reversed the air-current, it was comparatively mild, and only one person was slightly injured.

Fortunately, the shifts were being changed at the time of the accident and there were only 198 persons underground.

The fact that order was maintained, and the men quietly withdrawn from the mine in circumstances of considerable danger, when a panic might have had very serious consequences, is creditable to the good discipline of the work people and the efficiency of the officials.

Several serious subsidences had happened previously, and the manager and his staff were alive to the fact that the workings were very unstable, and that the danger of collapses increased in proportion to the area of split pillars, but they had no warning that a fall was imminent. Shortly before the subsidence, some of the workmen noticed that more dust than usual was being carried by the return air, but they were not sufficiently experienced in mining to interpret the subtle sign. The dust would be caused by the crumbling coal from the pillars when the roof was settling before the fall. It is strange that none of the "bumps" or bursting noises which usually precede large falls in stratified mines were heard. The fact that the strata at Warora are saturated with water, and that a thick bed of fire-clay lies immediately above the upper seam may account for this.

On the 5th April 1906, I made an inspection of the colliery and was accompanied underground by Mr. G. K. Watts, Secretary to the Honourable the Chief Commissioner, Central Provinces, Public Works Department, Mr. R. Wordsworth, Manager, and Mr. Yeoman, Mining Engineer, who gave me every possible

information. After carefully considering all the circumstances and the evidence I had the honour to despatch the following telegram to you in the evening :—

> " After inspection of Warora colliery and consultation with Watts, Public Works Department, and Wordsworth, Manager, I recommend the stoppage of the mine entirely and at once for reasons of safety and economy. Report follows. Reply urgent."

Before despatching the telegram I showed it to Mr. Watts and Mr. Wordsworth, and they both agreed with the recommendation. Subsequently, by order of the Government of India, the mine was abandoned.

The following were the reasons which appeared to justify me in taking the grave responsibility of recommending that the mine should be closed immediately.

The chronic instability of the workings of the mine has been described above. The subsidence, far from relieving this, had made it more acute. There were no really sound barriers or large pillars calculated to arrest the spread of the fall. The subsidence had set free large quantities of water from the water bearing strata above the coal, and the dip workings were flooded. This would have the effect of softening the parting between the seams and of unlocking the strata. There was a further possible danger of the water rising high enough to break into the fire areas which are isolated by brick walls not designed to stand much pressure. These areas probably contain carbonic oxide gas (CO), which is so poisonous that 1 per cent. in the air is fatal to life. Falls in other unventilated areas might also drive carbonic acid gas (CO_2) on to the workmen and suffocate them. There were also dangers to be feared from the direct fall, and from air blasts.

The dip workings, from which most of the coal was being obtained, were flooded by the water liberated by the subsidence, the pumps in the dip were lost and the water was rapidly rising in the main haulage road. It rose at varying rates and at one time advanced 48 feet in 24 hours up the dip road, which has an inclination of 1 in 14. A large installation of pumping machinery would be necessary to cope with this water, and if the workings were pumped dry, it probably would not be possible to work the coal, for the galleries would have collapsed and the pillars would be crushed.

There remained a few districts to the rise from which coal might be worked in comparative safety. The Manager estimated that he could maintain an output of 2,000 tons for some three months, and that at a liberal estimate not more than 10,000 tons could be raised. If the mine were to be worked to recover this small quantity of coal, a costly plant and establishment would have to be maintained, and the only result would be a serious loss of money.

Before the subsidence, the Manager had decided to recommend closing the pit in six months. During that period, perhaps 60,000 tons of coal could have been raised. This will represent the loss of coal due to the subsidence, but the mine could not have been economically worked for the last six months of its existence.

The loss of 60,000 tons of coal directly caused by the collapse is dwarfed by the waste due to the badly devised system of working. A reasonable estimate of the coal in the area worked would be 12,000,000 tons. Of this 3,086,220 tons or only 25 per cent. had been raised. If the mine had been properly laid out and worked from the beginning, perhaps 75 per cent. could have been recovered or a gain of nearly 6,000,000 tons, giving the mine an additional 40 years life at an average output of 150,000 tons a year.

Plans and sections of the subsidence are given at the end of the report. The surveys were made by the Public Works Department surveyors acting under the directions of Mr. Watts. The plan of workings was reduced from the working plan of the mine.

Another collapse of workings, which caused the death of three children, happened at Chota Dhemo mine near Sitarampur.

This is an old mine which was badly designed from the beginning, and several collapses of roof, crushing out the small pillars, had previously occurred. Two days before the accident, the officials of the mine noticed symptoms of coming collapse, and work in the mine was stopped. No steps, however, appear to have been taken to warn the people living on the surface that a subsidence was imminent. The result was that when the collapse occurred, three children

who were playing in the verandah of a building used for an office, were buried under the wreck and were killed.

Another accident, though not exactly a collapse of workings, may be mentioned under this heading, for the lesson it teaches is not dissimilar. A mine near Sitarampur had been worked with wide galleries and small pillars. Owing to a block in the surface drainage during a very heavy rain storm, a large body of water gathered on the surface. The thin crust between the top of a gallery and the ground level could not stand the pressure. It suddenly gave way and an enormous volume of water, estimated at four million gallons, rushed into the mine. A large and important mine was working to the dip of the flooded mine, and, as the barrier between the two mines had been broken in several places, the water rushed into the dip workings. If the dip mine had been at work, a large number of lives would have been lost, but by a happy chance no miners were at work. The mines Inspector of the No. 2 Circle is assisting the managers of the two mines to devise a scheme, which, it is believed, will prevent a recurrence of the accident.

In Bengal, there is often great difficulty in correctly defining the boundaries between mining royalties. As a consequence, the barriers are thin or do not exist, for there is no inducement for the owners of the rise mines to leave barriers to protect the lower workings of their neighbours, and it is sometimes found by the owners of the dip mines that, instead of having left barriers as intended, the work has been continued up to or even over the boundary. A thin barrier is worse than useless for it is liable to suddenly give way under water pressure.

Some great needs in Bengal coal mining are (*a*) leaving proper barriers between neighbouring mines, (*b*) arranging the workings in sections or panels with substantial ribs of coal between each, (*c*) forming the pillars of such a size that eventually they may be systematically and safely extracted. If such a system were the rule instead of the exception, a far larger percentage of coal would be recovered and the dangers of unexpected collapses of workings and of inrushes of water would to a great extent be removed.

When the deeper mines are worked, the water in the outcrop mines is likely to become a serious difficulty and danger. In the South Staffordshire coal-field, England, the neglect to leave proper barriers and to work systematically in the early development of the coal-field, caused an enormous quantity of coal to be lost, and an imposition of ten pence per ton is now necessary for the maintenance of the pumping plant of the South Staffordshire Mines Drainage Commissioners.

The Bengal coal-fields are somewhat similar to the South Staffordshire coal-field, but have a rainfall three times as great. The water question is worthy of the consideration of the mine owners as a body.

The question of colliery boundaries was discussed at a meeting of the Bengal Mining Board, and, as a preliminary, a recommendation was made that the trijunctional points should be relaid by the Revenue Survey. The marks of these points have in many cases disappeared.

HEALTH AND SANITATION.

The Indian Mines Act is, in the main, designed for the purpose of providing for the adequate supervision and management of the mines, and for giving powers enabling records of the condition and progress of mineral industry to be kept. Such legislation has the inevitable effect of eventually promoting efficiency and better and more economical methods of working. At present, however, in the coal mining districts of Bengal, the question of public health and sanitation is of even greater importance than safety. In last year's report reference was made to an outbreak of plague in the Jharia coal-field, and, though during the year under review, plague did not appear, there were two serious epidemics of cholera in the district. The first lasted from early in April to the beginning of May and the second for nearly the whole of June. No statistics of the number of cases and of deaths are available, but the loss of life was most serious. The miners, in such cases, return to their native villages, perhaps 50 miles away, and thus alarming rumours about the unhealthy condition of the mining districts are quickly spread over at least 10,000 square miles of recruit-grounds, and the difficulty of obtaining labour for the mines is enormously

increased. In the case of one of the largest mines, 75 per cent. of the work people left owing to the cholera, and the desertions in many other cases were most serious. The loss in output could not reasonably be estimated at less than 200,000 tons of coal.

Fortunately, the very grave danger is realized by the Local Government and by the mine owners. Dr. Clemensha, I. M. S., Officiating Sanitary Commissioner of Bengal, was appointed to make an enquiry. After a careful investigation, he submitted a report containing most valuable recommendations. Steps have since been taken to organise sanitary inspections of the district. Funds have been provided by the Indian Mining Association and by Government, and a committee formed, and sufficient subordinate staff provided to assist the resident doctor. The regulations which have been drafted will be found in Appendix III, page 64.

These regulations, if judiciously enforced, will greatly lessen the danger of epidemics, but do not go to the root of the danger as regards cholera. Plague, and some other epidemic disease, are possiblities, but in the present circumstances, cholera is an annual certainty in Jharia. The district is naturally healthy, but has become so congested that most of the water tanks are very foul. Cholera is a water-borne disease, and, until a proper scheme for the supply of pure water is in operation, its dark shadow will lie across the district. It is said by some that Indians do not care for well and tap water. There is ample evidence that this is not so. The fact is that, like other human beings, they will not take what seems to them to be unnecessary trouble and, as they are sceptical as to the dangers of tank water, will go to the nearest supply. If pure water is provided near at hand, whether from a tap or from a well, it will be taken, and the more distant tank neglected.

At Deshargarh where the aboriginal Santhals form 70 per cent. of the population, a well is sunk by the Equitable Coal Company wherever there is a settlement of 20 families. In the hot weather, water is brought close to the mouths of the mines, stored in an iron vessel and delivered to the miners, as they come out of the pits by a Brahmin. This prevents the thirsty miners from drinking foul water from the nearest tank, and, with the care paid to the wells, is said to have stopped the serious epidemics of cholera which formerly occurred from time to time.

At Giridih a comprehensive water scheme has been in successful operation for many years.

In the 1904 report reference was made to the danger of ankylostomiasis in Indian mines. The fears have been well founded in the case of the new gold mines at Dharwar. During the year all the Europeans in the camp and nearly all the coolies were infected with the worm. The disease yielded to the recognised treatment more readily than is usual, probably owing to the fact that the sanitation of the gold-field is superintended by a resident European officer. The early diagnosis of this troublesome disease is of the first importance.

MINING EDUCATION IN INDIA.

Excellent progress was made in mining education in Bengal during the year.

The Mining Instructor, Mr. W. T. Griffiths, after giving preliminary lectures in the hot weather and the rains, commenced the regular course of lectures in the coal-fields in November. Four centres were fixed, *viz.*:— Sanctoria and Charanpur in the Raniganj coal-field; and Jharia and Sijua in the Jharia coal-field. Twenty-five lectures were arranged for each centre. The attendances were most satisfactory, the averages for each lecture at each centre, up to the end of the year being, respectively, 25, 59, 58 and 65. No less than 342 persons were enrolled students, and the keen desire of the majority to profit by the lectures was most gratifying. Information relating to the lectures will be found in Appendix III, page 49.

The Mining branch of Sibpur College, with Professor Roberton in charge, was finally organised, and a Mining Advisory Board appointed with the Chief Inspector of Mines, Chairman. Sibpur College was gazetted on the 22nd February 1907, as an "approved University" by the Governor General in Council for the purposes of rules 32 and 33 of the Rules relating to managers' certificates, made under section 20 of the Indian Mines Act, 1901. A list of

the Universities and Colleges in England and India approved for the purposes of these rules will be found in Appendix III, page 65.

Nine mining students of Sibpur College went into camp in the Jharia coal-field with Professor Roberton, and for seven weeks were given practical training in the mines. My inspection of the camp and examination of the students' note books, satisfied me that the practical experience, though short, would be of the greatest assistance and value to the students in their studies. It must not be understood, however, that such casual experience of mines is part of the "practical experience" required, by the rules applying to coal mines made under the Indian Mines Act, before a candidate can sit for the examination for colliery manager's certificates of competency. Before a mining engineer can be considered to be grounded in the practical side of his profession he must go underground daily for several years, and acquire pitman-like alertness and resource in times of difficulty and danger. College training is of very great value, but the pit remains the only school in which to acquire the instincts of a miner.

Elementary education is very backward in the mining districts. In the Giridih coal-field, a serious attempt has been made for many years to educate the children, and it is said good results are apparent in those who, having had some education, have reached the working age.

At Dandot colliery, Punjab, a school is provided by the North Western Railway Company by whom the mine is worked. For a very small fee, the children of the work-people may attend the school. A slightly higher fee is charged for other children. When I inspected the school, there were 59 boys on the rolls. As a body they were remarkably bright and intelligent. A description of the mine workings, illustrated by sketches on the blackboard, by boys of 11 years of age was exceedingly good. It showed that the teaching was practical, and that the boys could absorb and understand it.

MINING AND GEOLOGICAL INSTITUTE OF INDIA.

An account of the inauguration of this Institute was given in last year's report. It made excellent progress during the year. At the meetings held for visiting mines and reading and discussing papers the average attendance was 69. The Government of India sanctioned an annual grant of Rs. 500 to be given as a prize for the best paper appearing in the Transactions of the Institute each year. This was won by Mr. L. L. Fermor for a paper of great practical and scientific value to India entitled "Manganese in India." Other valuable papers were contributed by members, and the discussions showed that the mining engineers of India are taking an interest in their profession.

A committee was appointed to revise the map of the Raniganj coal-field, and good progress has been made with this important work. The map when published will be of very great practical value to the mine owners in the coal-field.

His Excellency the Viceroy and Governor General of India honoured the members by attending the annual dinner, and it may safely be said that the Institute has already been the means of uniting the mining engineers and geologists of India, and of establishing an *esprit-de-corps* amongst them. The educational value of this will be very great, and the fruits will appear in after years.

MINING BOARD OF BENGAL.

This Board met four times. The principal business transacted being consideration of the rules for managers and their certificates, and for notices under the Act; re-arrangement of inspection districts; and a suggestion that the trijunctional points should be relaid in the colliery districts by the Revenue Survey to facilitate marking bounderies on mines plans.

BOARD OF EXAMINERS.

This was constituted under rule 28 of the Rules relating to managers, which came into force during the year, for granting certificates to managers of coal mines. The Board consists of the Chief Inspector of Mines, *ex-officio* President, and a mining engineer and a manager or owner of a mine. The Indian Mining Association was invited to nominate the unofficial members, and Mr. J. J. Turnbull, agent and general manager of the East Indian Coal

Company (Jharia coal-field) and Mr. W. Miller, agent and general manager of the Equitable Coal Company (Raniganj coal-field), were appointed. The appointments are for three years. Mr. S. Heslop, agent and general manager of the Beerbhum Coal Company, acted for six months during the absence of Mr. Miller on leave.

The Board is the sole authority for granting certificates, and is responsible for securing a uniform standard throughout India in the examinations of candidates for certificates of competency. The Board held 22 meetings, this large number being required for the heavy work of granting certificates of service to persons who had acted as managers of coal mines for specified periods before the rules came into operation. Four hundred and forty-one applications were received, each involving the consideration of a mass of documentary evidence extending over the service of the candidates, and in many cases interviews with the candidates were necessary. Certificates of service were granted in 184 instances. In addition to these, certificates of competency were granted in the case of 69 applicants who were possessed of English certificates of a similar class. A register of holders of certificates will be found in Appendix III. The Board drew up regulations for the conduct of the examinations for certificates of competency. These have been gazetted, and are given in Appendix III. They also arranged an examination and appointed the following examiners :—Messrs. E. C. Agabeg, chief mining engineer, Barakar Coal Company, Sitarampur division (Raniganj coal-field), R. J. Browne, general manager, Eastern Coal Company (Jharia coal-field), and James Grundy, Inspector of Mines (official member), who acted as Secretary. The examination was held at Asansol, but, as it was not held until the end of January, the account will be given in the report for 1907.

OFFICIAL DUTIES.

During the year, the staff of Inspectors was increased by the transfer of Mr. R. R. Simpson from the Geological Survey. Mr. Simpson had previously officiated during the absence on leave of one of the Inspectors. The circles assigned to each Inspector were revised, the principle of the revision being to place each Inspector where there would be a large number of mines within easy distance of his residence, and to give each a fair proportion of the long distance journeys.

A list of the inspection circles will be found in Appendix III, page 66.

All the Inspectors were tactful and indefatigable in the discharge of their duties, and they and the clerical staff cheerfully responded to the demands which were made upon what should have been their spare time. The abnormal pressure of work during the year caused these demands to be very frequent.

I have the honour to be,

SIR,

Your most obedient servant,

W. H. PICKERING,

Chief Inspector of Mines in India.

APPENDIX I.

FATAL ACCIDENTS, 1906.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			EXPLOSIONS OF FIRE-DAMP—(*4 deaths*).			
1	17th June, 7-30 P.M.	No. 7 Pit, Sodepur Mine, Sitarampur P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Laik Majhi, (*m.*), 35, Harma Majhi, (*m.*), 25, Lopsa Majhi, (*m.*), 30, *Coal-cutters.*	Coal	Five miners went to work in a rise working which was said to have been examined by the sirdar an hour before. They were carrying naked lights. Shortly after they reached the place there was an ignition of fire-damp and all the five men were burnt, three of them so severely that they subsequently died of their injuries. *See Report, page 7.* Inspection and inquiry made.
2	22nd August, 6-30 P.M.	Chora Mine, Chora P. O., Burdwan, Bengal.	Ondal Coal Co., Ld.	Mongal Majhi, (*m.*), 16, *Dust-cleaner.*	Coal	Died 23rd August. Explosion of fire-damp in a winning heading. Cause, naked lights and want of ventilation. *See Report, page 7.* Inspection and inquiry made.
			FALLS OF ROOF AND SIDE—(*51 deaths*).			
			(*a*) Falls of roof—(*24 deaths*).			
3	4th January, 10 A.M.	No. 18 Incline, Busserya Mine, Kusunda P. O., Manbhum, Bengal.	Busserya Coal Co., Ld.	Narayan Kahar, (*m.*), 35, *Coolie.*	Coal	A piece of shale, 6′ × 3′ × 6″, fell on him while he was taking down roof-stone. Killed on the spot. The deceased was an inexperienced coolie, and should not have been employed on such dangerous work. Inspection and inquiry made.
4	10th January, 11-30 A.M.	Hetla Pit, Serampur Mine, Giridih P. O., Hazaribagh, Bengal.	East Indian Railway Co.	Tota Meah, (*m.*), 40, *Coal-cutter.*	Coal	The deceased was preparing to get down some roof-stone previously loosened, when it suddenly fell on him, killing him instantly. The overman had neglected to make a satisfactory examination of the roof. Inspection and inquiry made.
5	20th January, 12-30 P.M.	Dandot Mine, Dandot P. O., Jhelum, Panjab.	North Western Railway.	Sohna, (*m.*), 60, *Coolie.*	Coal	While the deceased was engaged in his work some shale fell from between the timbers and struck his right ankle, injuring it so seriously that he died from the effects three days later.
6	12th May, 3 P.M.	Dharwar Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Thirti, (*m.*), 21, Mottray, (*m.*), 30, *Drillers:*	Gold	Three men were drilling in a level when a fall of roof occurred. The two men striking the drill were killed. Cause, a smooth horizontal graphite "cleavage" plane. Inspection and inquiry made.
7	18th May, 9 A.M.	Gopalichak Mine, Kusunda P. O., Manbhum, Bengal.	Gopalichak Coal Co., Ld.	Dhopu Singh, (*m.*), 22, *Coal-cutter.*	Coal	Fall of roof coal and shale in a working place. Cause a "slip." Inspection and inquiry made.
8	13th June, 9-30 A.M.	Khost Mine, No. 3, Khost P. O., Sibi, Baluchistan.	North Western Railway.	Amin, (*m.*), 32, *Coolie.*	Coal	Fall of roof in a timbered working place. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		FALLS OF ROOF AND SIDE—(*51 deaths*)—contd.				
		(*a*) Falls of roof—(*24 deaths*)—contd.				
9	21st July, 1 A.M.	Takrai Mine, Khost Colliery, Khost P. O., Sibi, Baluchistan.	North Western Railway.	Noorab, (*m.*), 30, *Miner*.	Coal	Fall of coal in a working place. At first the injuries appeared to be slight, but subsequently proved fatal. Inspection and inquiry made.
10	23rd July, 2 P.M.	Sor Range Mine, Quetta P. O., Pishin, Baluchistan.	S. Pherozeshaw	Mohamad Raza, (*m.*), 30, *Miner*.	Coal	Killed by fall of roof-stone in a tunnel. Inspection and inquiry made.
11	26th July, 2 P.M.	Chota Dhemo Mine, Dishargarh, P. O., Burdwan, Bengal.	Rai Ram Bandhu Chatterji, Bahadur.	Behari Bauri, (*m.*), 30, *Coal-cutter*.	Coal	The deceased and two of his brothers went through a fencing into the area of a recent subsidence and were taking away the fallen coal when a stone, about 2 feet square, fell on his head. He died about half-an-hour after the accident. Inspection and inquiry made.
12	8th September, 8 A.M.	West Ledo Valley Mine, Margherita P. O., Lakhimpur, Assam.	Assam Railways and Trading Co., Ld.	Naran Roy, (*m.*), 20, *Filler*.	Coal	Deceased was filling a basket with coal when a "bump" occurred dislodging roof-coal, a lump of which struck him on the head injuring him fatally.
13	9th October, 4-30 P.M.	West Gallery, Sukole Mine, Dharhara P. O., Monghyr, Bengal.	Ambler & Co.	Pockun Musair, (*m.*), 30, *Stone-cutter*.	Slate	Whilst deceased was examining a large block of slate which had been dropped, a loose piece 12″ × 8″ × 6″ fell, and rebounding cut him on the left side of his head. He died on the way to the hospital. Inspection and inquiry made.
14	10th October, 6-30 A.M.	Kila Ali Khan Mine, Khost Colliery, Khost P. O., Sibi, Baluchistan.	North Western Railway.	Shorang, (*m.*), 30, *Miner*.	Coal	After shot-firing in a main level, the deceased examined the roof and, having pulled down some loose rock, considered that he had made the place safe. He was removing the blasted rock when stone weighing 3 cwt. fell from the roof upon him injuring him so seriously that he died the following day. Inspection and inquiry made.
15	13th October, 1 P.M.	No. 1 Incline, Begunia Mine, Barakar P. O., Burdwan, Bengal.	N. L. Gorain and others.	Kadu Baurini, (*f.*), 30, Khiroda Bauriini, (*f.*), 36, Khiroda Bauriini, (*f.*), 28, *Coal-carriers*.	Coal	Fall of roof in a working place. Cause, reckless and improper methods of working. *See Report, page 8.* Inspection and inquiry made.
16	22nd October, 1-30 P.M.	West Gopalichak Mine, Kusunda P. O., Manbhum, Bengal.	Gopalichak Coal Co., Ld.	Jeton Meah, (*m.*), 35, *Miner*.	Coal	He went for some reason of his own beyond a fence into a disused gallery and was killed by a heavy fall of roof. Inspection and inquiry made.
17	22nd October, 7 P.M.	Gangutia Mine, Barakar P. O., Burdwan, Bengal.	Bengal-Nagpur Coal Co., Ld.	Bakhal Kora, (*m.*), 30, *Miner*.	Coal	The deceased, not having sufficient coal in his working place to fill a tub, went beyond a fence to rob coal from a pillar, and was fatally injured by a fall of stone and coal whilst doing so. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—(*51 deaths*)—contd.			
			(*a*) Falls of roof—(*24 deaths*)—concld.			
18	1st November, 3-30 P.M.	Kusumkanali Mine, Barakar P. O., Burdwan, Bengal.	Royal Bengal Coal Co.	Dulali Baurini, (*f.*), 16, *Coolie.*	Coal	The roof of a level was known by the colliery officials to be dangerous, but they took no steps to make it secure or even to keep the work-people out of danger. The deceased, suspecting no danger, was resting under the unsound roof, when a heavy fall occurred and she was killed. *See Report, page 8.* Inspection and inquiry made.
19	6th November, 12-15 P.M.	Bhagaband Mine, Jharia P. O., Manbhum, Bengal.	Borrea Coal Co., Ld.	Karu Mistry, (*m.*), 40, *Carpenter.*	Coal	The deceased went beyond a fence into a disused gallery, without authority, to draw timber. He had drawn two props and was drawing a third when a large area of roof fell upon him, and he was so seriously injured that he died four hours afterwards. Inspection and inquiry made.
20	6th November, 10-30 P.M.	No. 1 Incline, Lutchipur Mine, Sitarampur P. O., Burdwan, Bengal.	Lutchipur Coal Co., Ld.	Banwari Kahar, (*m.*), 40, *Coal-cutter.*	Coal	The deceased was found dead with his head under a fallen roof-stone in an unused gallery about 200 feet beyond a fence. He had, apparently, gone to the place to rob coal from a pillar. Inspection and inquiry made.
21	28th November, 8 A.M.	Attikatti Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Gold Mines, Ld.	Bimana Gowda, (*m.*), 30, *Miner.*	Gold	He was clearing away the rock after shot-firing when a fall of roof took place, killing him on the spot. Inspection and inquiry made.
22	2nd December, 5 P.M.	Tajuwala Mine, Katha P. O., Shahpur, Punjab.	Bhugwan Dass and Ram Dass.	Chogata, (*m.*), 40, *Coolie.*	Coal	A piece of stone fell on his back while timbering was in progress, and injured him so seriously that he died four days later.
23	30th December, 4-15 P.M.	Panari Mine, Jhajha P. O., Monghyr, Bengal.	J. K. Dass Golabhai Seth.	Chulai Goala, (*m.*), 30, *Miner.*	Mica	Killed by a fall of roof in a mica pit. Two other men injured.
			(*b*) Falls of side—(*27 deaths*).			
24	10th February, 1 P.M.	Khuldia Mine, Giridih P. O., Hazaribagh, Bengal.	Bengal Coal Co., Ld.	Bhattu Morrick, (*m.*), 27, *Miner.*	Coal	The deceased was working at the dip side of a coal-pillar when about 2 cwts. of coal fell from the side of the pillar and injured him fatally. Inspection and inquiry made.
25	11th February, Midnight.	Kyauksaung Mine, Mogok P. O., Ruby Mines District, Burma.	Haji Shiva Tin.	Mashin Chauk, (Panthay), (*m.*), 23, Yanwu (Panthay), (*m.*), 33, *Coolies.*	Rubies	They were drawing water from a mine, when a fall of stone took place and killed them.
26	13th April, 6-30 A.M.	Jinagora Mine, Jharia P. O., Manbhum, Bengal.	East Barari Coal Co.	Lallu Mulla, (*m.*), 20, *Miner.*	Coal	He undermined a band of stone whilst cutting coal in a quarry with the result that a piece of stone, 4′×3′×6″, fell on and killed him. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—(*51 deaths*)—contd.			
			(*b*) Falls of side—(*27 deaths*)—contd.			
27	16th April, 1-45 P.M.	Kustore Mine, Jharia P. O., Manbhum, Bengal.	Raniganj Coal Association, Ld.	Sukri Kaharin, (*f.*), 22, *Coal-carrier.*	Coal	Two miners were directed by a sirdar to take down overhanging side coal in a gallery already 25 feet wide. Roof-stone 15" thick fell from an area 7 feet long by 5 feet wide. Sukri was killed and another woman injured by the fall. Work should not have been permitted in so wide a gallery. Inspection and inquiry made.
28	23rd May, Noon.	Mandri Mine, Kamptee P. O., Nagpur, Central Provinces.	Central India Mining Co., Ld.	Gunia Kunbi, (*m.*), 45, *Miner.*	Manganese	Deceased went against orders into an abandoned working to drink water, and was killed by a "slip" of mica schist.
29	9th June, 11 A.M.	Nandi Mine, Nandi P. O., Burdwan, Bengal.	Adjai Coal Co., Ld.	Bipon Kole, (*m.*), 26, *Coal-cutter.*	Coal	The deceased had, apparently, undercut a piece of coal, and as the coal toppled over he tried to get out of its way, failing which he was knocked against the side of the gallery by the upper part of the falling coal, sustaining severe injuries. Fever supervened and he died on the 13th. Inspection and inquiry made.
30	14th June, 11 A.M.	Charki Mine, Kodarma P. O., Hazaribagh, Bengal.	F. F. Chrestien & Co.	Mongra Mushahar, (*m.*), 25, *Coolie.*	Mica	Three coolies were cutting down the side of a mica pit when the earth slipped, carrying the men with it. Mongra was killed by the fall.
31	26th July, 8-30 A.M.	New Surataur Mine, Jharia P. O., Manbhum, Bengal.	J. L. Banerji's Coal Concern.	Sokhi Kora, (*m.*), 30, *Miner.*	Coal	Deceased with others was engaged in pillar stripping when a large piece of the side, 10′ × 3′ to 2′ × 2′-6″ to 2′, fell on him. He died about 3 hours later. The men were doing dangerous work without effective supervision. Inspection and inquiry made.
32	27th July, 10-30 A.M.	Kusunda Mine, Kusunda P. O., Manbhum, Bengal.	Kusunda and Nayadi Collieries, Ld.	Bani Munda, (*m.*), 40, *Miner.*	Coal	The deceased was at work cutting floor coal in a gallery when a piece of coal about three-quarters of a ton, fell from the top of a pillar upon him, breaking his spine. He died shortly after. Inspection and inquiry made.
33	28th July, 9 A.M.	Sri Venkatrana Swamy Mine, Sydapuram P. O., Nellore, Madras.	Y. C. Venkatrasubbaya Chetty.	Gudumitla Nambigadu, (*m.*), 20, *Coolie.*	Mica	Three men were removing a "book" of mica when about ten basketsful of loose soil fell from the top of the quarry on them, injuring deceased so seriously that he died the next day. The other two were seriously injured.
34	9th October, 2 P.M.	Bagdiggi Mine, Jharia P. O., Manbhum, Bengal.	C. J. Smith	Kundi Bhuyani, (*f.*), 30, *Earth-carrier.*	Coal	The outcrop of No. 14 coal seam was being worked by quarrying. At the place of accident the overburden, consisting of sandy clay, had been excavated, forming a vertical cliff 18′ to 7′-8″ high. Some 20 coolies were sitting in the shade of this cliff when about 9 tons of the sandy clay fell, killing Kundi and seriously injuring another woman. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—(*51 deaths*)—concld.			
			(*b*) Falls of side – (*27 deaths*)—concld.			
35	14th November, 7 A.M.	Jharia Khas Mine, Jharia P. O., Manbhum, Bengal.	Standard Coal Co., Ld.	Sada Ram Chamar, (*m.*), 15, Tegma Chamarni, (*f.*), 25, *Coal-carriers.*	Coal	The two deceased were carrying coal for a miner who was cutting bottom coal at the foot of a pillar 21 feet high, and were killed on the spot by the fall of a huge mass of coal from the corner of the pillar. The bottom of the coal which fell was 11 feet above the floor of the working place. The cause of the fall was a vertical joint in the coal. Inspection and inquiry made.
36	18th November, 2 P.M.	Gaganpur Mine, Jhajha, P. O., Monghyr, Bengal.	L. J. and J. Ram.	Rewa Rai, (*m.*), 28, *Coolie.*	Mica	Killed by a fall of earth from the side of a mica pit.
37	28th November, 3-30 P.M.	Tikak Mine, Margherita P. O., Lakhimpur, Assam.	Assam Railways and Trading Co., Ld.	Karan, (*m.*), 24, *Miner*, Makru, (*m.*), 22, *Coolie.*	Coal	Whilst the two men were clearing coal from the entrance of an opening a piece of coal fell from a pillar to the rise, and rolling upon them fatally injured them.
38	7th December, 4 P.M.	Chatkari Mine, Rejauli P. O., Gya, Bengal.	Manoranjan Guha.	Budhon Singh, (*m.*), 22, *Coolie.*	Mica	Killed by a piece of stone rolling on him.
39	14th December, 12 Noon.	Garbham Mine, Chipurupalli P. O., Vizagapatam, Madras.	Vizianagram Mining Co., Ld.	Althi Ramadu, (*m.*), 40, Althi Venkiah, (*m.*), 25, Budi Appiah, (*m.*), 20, Murapaka Appiah, (*m.*), 15, Nathaty Pydi, (*f.*), 50, *Coolies.*	Manganese	Eight persons were working at the bottom of a shallow quarry when about six tons of manganese ore and overburden fell, killing five and injuring three others. Very improperly, the manganese ore had been "holed" or undercut, and the overburden not removed. The accident was due to this dangerous and uneconomical method of working and to ineffective supervision. *See Report, page 8.* Inspection and inquiry made.
40	29th December, 2 P.M.	Salayakhad Mine, Giridih P. O., Hazaribagh, Bengal.	Momraj Marwari.	Jitan Turi, (*m.*), 35, Barka Majhi, (*m.*), 28, Dhokal Rai, (*m.*), 24, Behari Rai, (*m.*), 40, *Coolies.*	Mica	Killed by a fall of earth from the side. Two others were slightly injured.
			IN SHAFTS—(*20 deaths*).			
			Whilst ascending or descending by machinery—(*7 deaths*).			
41	30th January, 10 P.M.	A Pit, Simlabahal Mine, Kusunda P. O., Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Aliar Chamar, (*m.*), 32, *Fitter.*	Coal	The deceased had been attending to a pump in the shaft and, while being wound up, he fell out of the bucket and was killed. Inspection and inquiry made.
42	5th August, 1-30 P.M.	No. 4 Pit, Lutchipur Mine, Sitarampur P. O., Burdwan, Bengal.	Damuda Coal Co., Ld.	Ram Lal Chatterji, (*m.*), 45, *Pit Sircar.*	Coal	The deceased was descending in the cage alone. He spoke to those who were ascending in the opposite cage, and soon after this—from some unknown cause—he fell out of the cage to the pit bottom and was killed. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accipents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		IN SHAFTS—(*20 deaths*)—contd.				
		Whilst ascending or descending by machinery—(*7 deaths*)—concld.				
43	29th August, 9 A.M.	No 12 Pit, Sijua Mine, Sijua P. O., Manbhum, Bengal.	Sijua Coal Co., Ld.	Kartic Lal Sircar, (*m.*), 32, *Pit Sircar.*	Coal .	Deceased and another man were descending a shaft, 270 feet deep, in a cage. The cage stopped about three-quarters of the way down and deceased, presumably thinking that he was at the bottom of the shaft stepped out and fell about 60 feet. The engineman said he received a signal to stop from the bottom, but it was impossible to ascertain who gave that signal. Inspection and inquiry made.
44	29th September, 4-30 P.M.	No. 3 Sinking Pit, Baraboni Mine, Charanpur P. O., Burdwan, Bengal.	Burman & Co.	Fuckir Sheik, (*m.*), 35, *Boiler-stoker.*	Coal .	He went down the shaft to recover a water-bucket which had fallen to the bottom owing to two of the hooks having broken. He foolishly attempted to ride up the shaft on the damaged bucket attached to the chains by the two remaining hooks. The bucket became detached from the chains, and he fell into the sump and was drowned. Inspection and inquiry made.
45	25th November, 8-20 P.M.	No. 5 Pit, Dishargarh Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Kipe Baurini, (*f.*), 42, Kuhuli Baurini, (*f.*), 16, *Bailing Kamins.*	Coal .	With the connivance of the regular engineman, an unauthorised person was allowed to handle the winding engine whilst six persons were descending the shaft. He lost control of the engine, and the cage was dashed so violently on the pit bottom that two of the persons in it were killed and the other four seriously injured. *See Report, page 8.* Inspection and inquiry made.
46	3rd December, 4-30 A.M.	No. 3 Shaft, Chinchuria Mine, Asansol P. O., Burdwan, Bengal.	New Birbhum Coal Co., Ld.	Mousa Meah, (*m.*), 35, *Sinker.*	Coal .	The lamps at the bottom of the sinking pit had become extinguished. Deceased was sent up in the bucket to light one of the lamps. Whilst being lowered again with the lighted lamp he fell out of the bucket to the bottom of the shaft and was killed on the spot. He was alone in the bucket at the time, and as far as could be ascertained his own carelessness caused the accident. Inspection and inquiry made.
		Falling into the shaft from the surface—(*3 deaths*).				
47	4th January, 8 P.M.	No. 1 Pit, Akhalpur Mine, Nandi P. O., Burdwan, Bengal.	Hariladih Coal Co., Ld.	Masta Majhi, (*m.*), 40, *Coal-cutter.*	Coal .	The deceased with his mate was wound up a pit in a bucket, and got on to a trolley. Instead of waiting for the latter to be pulled away from the pit he impatiently stepped down from it, slipped and fell into the pit, a depth of about 240 feet, and was killed instantly. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		IN SHAFTS,—(*20 deaths*)—contd.				
		Falling into the shaft from the surface—(*3 deaths*)—contd.				
48	4th August, 11-45 P.M.	No. 1 Pit, Bhaga Mine, Jharia P. O., Manbhum, Bengal.	Jharia Colliery Co., Ld.	Mahomed Hosein, (*m.*), 30, *Miner.*	Coal	As he was attempting to pull a loaded tub out of the cage, he slipped and fell between the cage and the middle upright of the head frame, which holds the guide ropes, through a space 3'-1" high and 1'-1" wide, and falling to the bottom of the shaft was killed. Inspection and inquiry made.
49	14th November, 4-30 A.M.	Lodna Mine, Jharia P. O., Manbhum, Bengal.	Lodna Colliery Co., Ld.	Dodoa Mahto, (*m.*), 21, *Trolleyman.*	Coal	He fell down a pumping pit, 120 feet deep, either over the front of the trolley, which was unfenced at the time, or between two beams $9\frac{1}{4}$" apart, which were laid across the pit outside the pit-top fencing. No one appeared to have witnessed the accident and no satisfactory explanation was obtained. Inspection and inquiry made.
		Falling from part of the way down—(*3 deaths*).				
50	25th January, 5-30 P.M.	B. Shaft, Jamadoba Mine, Jharia P. O., Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Abdul Sheik, (*m.*), 27, *Fitter.*	Coal	A pump was being lowered into a shaft by a handcrane. Deceased and another man had been lowered in a sinking-bucket to the pump, and had got on the pump to guide it past a bulge in the side of the shaft when the crane broke, and the men were thrown down the shaft for 50 feet into deep water. Deceased was drowned and the other man rescued. Inspection and inquiry made.
51	20th September, 1-30 A.M.	No. 1 Pit, Ballarpur Mine, Warora P. O., Chanda, Central Provinces.	Government of India.	Madari Ram Prasad, (*m.*), 25, *Coal-cutter.*	Coal	The pump-man went down the pit to examine the pump suction. In order to allow him to do this some planks of a scaffolding had to be removed. After he had examined the suction he went to his pump and the planks were being replaced when the deceased came out of one of the headings, although warned that the replacement of the planks had not been completed, and fell through the opening into the sump. In falling his head struck a steel rail which fractured his skull.
52	8th October, 8 P.M.	No. 2 Pumping Pit, Lodna Mine, Jharia P. O., Manbhum, Bengal.	Lodna Colliery Co., Ld.	Karim Bux, (*m.*), 32, *Pump-khalassi.*	Coal	The deceased went down a pumping pit alone to attend to a pump which was on a platform in the shaft. He was subsequently found in the pit bottom unconscious and so seriously injured that he died on the following day. The platform was suspended by four converging chains attached to a crab rope, and he could have held to either of the two outer chains whilst doing his work. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			IN SHAFTS—*(20 deaths)*—contd.			
			Things falling from the surface—*(2 deaths.)*			
53	2nd June, 3-20 P.M.	New Shaft, Kendwa Mine, Kulti P. O., Burdwan, Bengal.	Bengal Iron and Steel Co., Ld.	Tanu Bauri, (*m.*), 37, *Coal-cutter.*	Coal .	The deceased was in the pit bottom when the surface trolley-man allowed a tub to fall down the shaft. The tub fell on him and killed him. Inspection and inquiry made.
54	15th August, 5 P.M.	Chanch Mine, Barakar P. O., Manbhum, Bengal.	Bengal Coal Co., Ld.	Jitu Majhi, (*m.*), 20, *Underground-hookman.*	Coal .	Whilst the deceased was pulling an empty tram from the winding cage something (believed to be a piece of coal) fell down the pit, struck him on the head and killed him. Inspection and inquiry made.
			Things falling from part of the way down—*(1 death).*			
55	21st June, 8-30 A.M.	Palashdiha Mine, Asansol P. O., Burdwan, Bengal.	Jugal Kissore Roy.	Matla Majhi, (*m.*), 45, *Coal-cutter.*	Coal .	A lump of coal, weighing about a maund, fell from a loaded tub which was being hauled up a pit, on to the deceased's right leg while he was waiting his turn along with others to send up their loaded tubs. The contact caused him to fall, and in doing so he struck his head against a bucket. He was injured so seriously that he died seven hours later. Inspection and inquiry made.
			Miscellaneous —*(4 deaths).*			
56	25th March, 7-30 P.M.	Damudapur Mine, Chaukidanga P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Meghu Hajam, (*m.*), 24, *Coal-cutter.*	Coal .	The deceased was assisting in cleaning out a sump at the bottom of a shaft when the cage fell upon and killed him. The top cage was resting on the keps, and the rope had been detached from it for the purpose of re-socketing. The bottom cage, which fell, was standing in the shaft 30 feet above the sump. The brake of the winding-engine was pinned down. Tests, subsequent to the accident, showed that the brake was inadequate to support the weight of the unbalanced cage and rope. Inspection and inquiry made.
57	16th April, Midnight.	Kendwadih Mine, Jharia P. O., Manbhum, Bengal.	Hariladih Coal Co., Ltd.	Domon Burhi, (*m.*), 25, *Hookman at pit bottom.*	Coal .	He was the night hookman at the bottom of a shaft, and was found dead in the morning underneath the cage. He had probably tried to cross from one side of the shaft to the other while the cages were in motion. Inspection and inquiry made.
58	20th May, 6 A.M.	Laikdih Mine, Barakar P. O., Manbhum, Bengal.	Bengal Coal Co., Ld.	Bahadur Bauri, (*m.*), 25, *Onsetter.*	Coal .	The deceased, who was an onsetter, was foolishly crossing the pit bottom whilst winding was in progress. He was so badly injured by a descending cage that he died some days afterwards. The pit was a new one and a passage round the bottom had been made. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		IN SHAFTS—(*20 deaths*).—concld.				
		Miscellaneous—(*4 deaths*).—concld.				
59	3rd July, 10-30 A.M.	Pit No. C, Faridpur Mine, Charanpur P. O., Burdwan, Bengal.	Adhor Chunder Ghosh.	Parbutty Kora, (*f.*), 16, *Coal-carrier.*	Coal	The deceased was about to hook on her own tub and, as the rope was slack, she called out to the gin women to haul up, apparently thinking that as the rope was becoming taut she would hook her tub and so kept her hold of the rope. She failed to hook her tub and was drawn up about 20 feet when she fell on to a bucket and was killed instantaneously. Inspection and inquiry made.
		SUFFOCATION BY GASES—(*4 deaths*).				
60	1st April, 4 A.M.	Upper Ledo Mine, Margherita P. O., Lakhimpur, Assam.	Assam Railways and Trading Co., Ld.	Balka, (*m.*), 28, *Coal-cutter*, Chamru, (*m.*), 30, *Coolie*, Boruha, (*m.*), 27, *Coal-cutter*, Ahadhar, (*m.*), 26, *Coolie.*	Coal	Through the stoppage of the ventilating fan the four men were overcome by the gases generated by an underground fire. *See Report, page 9.* Inspection and inquiry made.
		BY EXPLOSIVES—(*4 deaths*).				
61	6th January, 4 P.M.	Dharwar Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Chinguten, (*m.*), 22, *Driller.*	Gold	Killed while drilling into a missfired charge of gelignite. Seven other persons were injured. Inspection and inquiry made.
62	3rd March, 11-30 A.M.	Mudidih Mine, Sijua P. O., Manbhum, Bengal.	Reliance Coal Co., Ld.	Mangal Singh, (*m.*), 35, *Sinker.*	Coal	The deceased was killed by the explosion of a dynamite shot. The shot had missed fire, but exploded about an hour afterwards. The method of firing was electrical. The cause of the deferred explosion could not be precisely ascertained. Inspection and inquiry made.
63	20th July, 5 P.M.	Dharwar Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Nadamoney, (*m.*), 25, *Timber coolie.*	Gold	Whilst levelling the ground for the purpose of laying tram rails his pick struck and exploded a missfired charge of gelignite and he was killed on the spot. Inspection and inquiry made.
64	24th September, 6 P.M.	No. 5 Air Shaft, Loyabad Mine, Kusunda P. O., Manbhum, Bengal.	Barakar Coal Co., Ld.	Ram Charan Singh, (*m.*), 30, *Sinking Sirdar.*	Coal	A round of five gelignite shots had been electrically fired in a sinking pit on the day before the accident. It was noticed that one of the shots had failed to break the rock to the bottom of the hole, and though warned not to tamper with it the deceased rammed a crow-bar into the hole. An explosion followed, and he was so seriously injured that he died on the following day. It is evident that the full charge had failed to detonate and the accident was caused by a remnant remaining in the back of the shot hole. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			HAULAGE—(*11 deaths*).			
65	2nd March, 3-30 A.M.	Brahmanbarari Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Budhu Mullick, (*m.*), 25, *Miner.*	Coal	As a train of seven tubs was being lowered over the top of an incline, the first tub ran amain down the slope and killed the deceased. The hookman was to blame for opening the lower stop-block before the train had been pushed past the upper stop-block. Inspection and inquiry made.
66	7th March, 8 P.M.	Sudihi Mine, Sitarampur P. O., Burdwan, Bengal.	Navigation Coal Co., Ld.	Kapuria Manjhaini, (*f.*), 12, *Coal-carrier.*	Coal	She was killed by a train of tubs which ran amain down an incline.
67	17th March, 4-30 P.M.	Bhuggutdih Mine, Dhanbaid P. O., Manbhum, Bengal.	Bengal-Nagpur Coal Co., Ld.	Sitla Chamar, (*m.*), 36, *Miner.*	Coal	Killed on a haulage-incline by a runaway train. The cause of the break-away was the falling out of the pin of a draw-bar. A runaway switch was provided but did not come into action, because the man holding up the points lost his head and neglected to let go the lever. Inspection and inquiry made.
68	6th May, 5 P.M.	Takrai Mine, Khost Colliery, Khost P. O., Sibi, Baluchistan.	North Western Railway.	Allah Din, (*m.*), 36, *Carpenter.* Abdul Ghafur, (*m.*), 25, *Coolie.*	Coal	An iron trolley was being lowered into a main dip when the draw-bar broke and the trolley ran amain to the bottom, killing Abdul Ghafur who was standing there. Allah Din who was in the tram at the time was so seriously hurt that he died later on.
69	29th May, 8 P.M.	No. 1 Incline, Narsamuda Mine, Asansol P. O., Burdwan, Bengal.	Sitarampur Coal Co., Ld.	Konju Bauri, (*m.*), 25, *Hooker-on.*	Coal	Very improperly a dangerously worn wire rope was allowed to be used as a haulage rope for opening out an old incline. A set of empty tubs was being lowered into the mine when the rope broke and the tubs ran amain and the deceased, who was walking up the incline, was run over and killed. *See Report, page 10.* Inspection and inquiry made.
70	14th July, 11-30 A.M.	No. 1 Incline, Salanpur Mine, Sitarampur P. O., Burdwan, Bengal.	Borrea Coal Co., Ld.	Budhu Mejhain, (*f.*), 30, *Dust-kamin.*	Coal	The deceased in trying to ride with another female on a train of loaded tubs which was being hauled up an incline slipped and fell in front of the first tub which passed over her thigh and groin. She was injured so seriously that she died a few days after the accident. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			HAULAGE—(*11 deaths*)—concld.			
71	16th August, 2 A.M.	No. 3 Incline, Dhundabad Mine, Sitarampur P. O., Burdwan, Bengal.	New Manbhum Coal Co., Ld.	Kulpo Dome, (*m.*), 27, *Hookman.*	Coal	A set of four full tubs was being hauled up an incline. The tubs left the rails and therefore the engine was stopped, and subsequently, Kulpo Dome was found lying dead behind the set. Apparently he had been run over when walking out of the mine, but there was no direct evidence as to the cause of the accident. At the place of accident the roadway was arched for a distance of 200 feet, but was not provided with manholes for places of refuge within the prescribed distances, and steam escaping from defective joints in the steam pipes, laid in the road, was an additional danger to persons using the road for travelling. Inspection and inquiry made.
72	7th November, 1 A.M.	Tunnel A, Mogok, Ruby Mines District, Burma.	Burma Ruby Mines, Ld.	Behari, (*m.*), 52, *Coolie.*	Ruby	Deceased was pushing an empty truck and apparently did not hear a full one following. The trucks collided, his truck derailed and pinched him against the side of the tunnel causing fracture of left ribs. Died from shock.
73	24th December, 1-40 P.M.	Jamuria Mine, Nandi P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Bekari Passi, (*m.*), 35, Bhadol Chamar, (*m.*), 40, *Coal-cutters.*	Coal	They were walking to the shaft after finishing work, and came on to the haulage road from a side gallery at a point just above where the trains pass. They saw the rope attached to the empty train of a self-acting incline moving, and in order to avoid the train crossed over on to the other line of rails where, after walking down for about 20 yards, they were overtaken and knocked down by a full train. They had only worked for about nine days in that part of the mine, and had formerly been accustomed to single rope haulage. Inspection and inquiry made.
			SUNDRIES UNDERGROUND—(*3 deaths*).			
74	1st April, 9-30 A.M.	Ghusik Mine, Kalipahari P. O., Burdwan, Bengal.	S. T. Creet & Co.	Bonsmah Bauri, (*m.*), 35, *Miner.*	Coal	He unscrewed a valve of a pulsometer pump, and was scalded to death by the steam which escaped. Inspection and inquiry made.
75	23rd August, ?	Gwebin Mine, Mogok P. O., Ruby Mines District, Burma.	Maung Gywe	Maung Ke, (*m.*), 40, *Miner.*	Ruby	The deceased was killed by a huge piece of rock rolling upon him whilst he was bailing out water that had entered the mine during a heavy shower.
76	26th October, 2-30 P.M.	West Ledo Valley Mine, Margherita P. O., Lakhimpur, Assam.	Assam Railways and Trading Co., Ld.	Fulu Goala, (*m.*), 22, *Filler.*	Coal	A piece of coal, less than a cubic foot in size, rolled down a slope and struck against the *kodali* the deceased was using at the time, the handle of which was driven into his stomach. He died whilst being conveyed to the hospital.

LIBRARY OF THE ROYAL MINES BRANCH OF THE GEOLOGICAL SOCIETY

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		ABOVE GROUND—(*9 deaths*).				
		On surface railways and tramways belonging to the mine—(*4 deaths*).				
77	31st May, 6-30 P.M.	Shampur Mine, Nirsachati P. O., Manbhum, Bengal.	Shampur Coal Co., Ld.	Ram Manjhi, (*m.*), 32, *Surface-trammer.*	Coal	The deceased had taken a side tipping tram to the end of the line where it over ran the rail head, and as the catch was not fastened the tram partly tipped. He was leaning over the frame to adjust the tram when the body of the tram fell upon the back of his head and forced his eye on to a vertical bolt. He was so seriously injured that he died in half-an-hour. Inspection and inquiry made.
78	11th June, 12-30 P.M.	Mine Siding, Bhowra Mine, Jharia P. O., Manbhum, Bengal.	Eastern Coal Co., Ld.	Bhatu Bhuia, (*m.*), 26, *Coolie.*	Coal	While the deceased was sheltering behind a wagon during a dust-storm another wagon was blown up against this wagon. He was knocked over and the wheels passed over his left leg practically severing it. He died from shock the following day. Inspection and inquiry made.
79	28th June, 9 A.M.	No. 4 Pit Wharf, Sijua Mine, Sijua P. O., Manbhum, Bengal.	Sijua Coal Co., Ld.	Bhuni Beldarin, (*f.*), 47, *Coolie.*	Coal	Deceased was knocked down by a loaded tub while crossing the tramway line and injured seriously. She died in hospital on the 25th August.
80	23rd September, 3-30 P.M.	Damudapur Mine, Chaukidanga P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Jadu Kora, (*m.*), 55, *Loading-coolie.*	Coal	The deceased was one of a gang of loading-coolies employed in hand-shunting covered coal wagons preparatory to loading. Four wagons had one by one been pushed beyond the screens. When the fifth was brought along the deceased, by some unknown means, was caught between its buffers and those of the last stationary wagon. He died shortly after the accident. Inspection and inquiry made.
		Miscellaneous on surface—(*5 deaths*).				
81	10th January, 5 P.M.	Nandalagunta Mine, Sydapuram P. O., Nellore, Madras.	A. Subba Naidu.	Molaka Bangarigadu, (*m.*), 50, *Coolie.*	Mica	He was digging for mica-waste in the waste-heap, when the walls of the excavation collapsed and buried him. He was suffocated. The Manager disclaimed responsibility, but was nevertheless blameworthy. Inspection and inquiry made.
82	16th June, 3-30 P.M.	Jamadoba Mine, Jharia P. O., Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Bandhu Mahata, (*m.*), 35, *Coolie.* Jiban Ankure, (*m.*), 45, *Mason.*	Coal	A chimney which was in course of erection suddenly collapsed, and four men who were working at the top fell to the ground with the bricks and scaffolding. Bandhu was killed on the spot, two were badly injured, one (Jiban) so seriously that he died five days afterwards. The fourth man escaped with a few bruises. The chimney was 58 feet high. *See Report, page 11.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			ABOVE GROUND—(*9 deaths*)—concld.			
			Miscellaneous on surface—(*5 deaths*)—concld.			
83	6th September, 5 A.M.	Surface coolie huts, Bhalgora Mine, Jharia P. O., Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Lukhia, (*f.*), 16, *Coal-carrier.*	Coal	Pillars were being extracted from a shallow mine and as a collapse was inevitable the surface likely to be effected was fenced. The deceased had gone to her hut, which was inside the fence, to remove her belongings, when the collapse took place and she was so seriously injured by the fall of the hut that she died the same day. Inspection and inquiry made.
84	13th or 14th September. ?	No. 6 Pit, Dishargarh Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Saboran Teli, (*m.*), 22, *Fitter's-coolie.*	Coal	The deceased had been working below ground in the mine and was last seen alive on the evening just as he came out of the mine. On the afternoon of the next day his body was seen floating in a boiler feed-water tank in which the work-people were in the habit of bathing. It was surmised that he was accidentally drowned whilst bathing. Inspection and inquiry made.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

APPENDIX I—*contd.*

Fatal Accidents, 1906—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
				DEATHS NOT INCLUDED IN THE STATISTICS—(*12 deaths*).			
1	18th February, 1-20 P.M.	Salanpur Mine, Sitarampur P. O., Burdwan, Bengal.	Borrea Coal Co., Ld.	A male about 35. Other particulars unknown.	Coal	Not employed.	Deceased was being pursued for a theft in the bazar. He ran to the top of the pit, and attempted to slide down one of the guide-ropes, but, the rope being newly-greased, he fell to the bottom of the shaft and was killed on the spot. Inspection and inquiry made.
2	23rd March, 6-30 A.M.	Chota Dhemo Mine, Dishargarh, P. O., Burdwan, Bengal.	Chota Dhemo Coal Co.	Sambhu Bauri, (*m.*), 9, Lambu Bauri, (*m.*), 4, Khadu Baurini, (*f.*), 6.	Coal	Not employed.	Killed by the collapse of a house due to a subsidence caused by underground workings.
3	31st March, 8 A.M.	Mudidih Mine, Sijua P. O., Manbhum, Bengal.	Reliance Coal Co., Ld.	Bhutin Chamarin, (*f.*), 75.	Coal	Not employed.	The deceased, who was old and deaf, was run over and killed by a train of two trams which was running along a surface tramway under the impulse of gravity. A man was in charge of the train and was provided with a wooden roller, which he used as a "slipper" in front of the train for the purpose of controlling the speed. The appliance is unsatisfactory as an emergency brake. Inspection and inquiry made.
4	28th April, 12-30 P.M.	Brahmanbarari Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Bangali Malla, (*m.*), 5.	Coal	Not employed.	As two men were hand-shunting a wagon the child was run over and killed. Inspection and inquiry made.
5	29th April, 9 A.M.	Sitalpur Mine, Sitarampur P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Giri Baurini, (*f.*), 19.	Coal	Not employed.	She was descending steps leading from the pit bank when a tub was accidentally pushed over the edge. The tub fell on and killed her. Inspection and inquiry made.
6	19th May, 1 P.M.	Godhur Mine, Kusunda P. O., Manbhum, Bengal.	Mylne & Co.	Ganjari Beldarin, (*f.*), 4.	Coal	Not employed.	Run over during the hand-shunting of a wagon. Inspection and inquiry made.
7	10th June, Noon.	Jamadoba Mine, Jharia P. O., Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Giridhari Barhi, (*m.*), 5.	Coal	Not employed.	Found drowned in the boiler tank. It is presumed he fell in while playing, as no evidence was forthcoming. Inspection and inquiry made.

APPENDIX I—*concld.*

Fatal Accidents, 1906—*concld.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
DEATHS NOT INCLUDED IN THE STATISTICS—(*12 deaths*)—concld.							
8	28th November, 3 A.M.	No. 2 Shaft, Sunpur Mine, Chora P. O., Burdwan, Bengal.	Ondal Coal Co., Ld.	Jag Singh, (*m.*), 20, *Sinker.*	Coal .	Owing to claim that death was not due to accident.	He was one of a gang of men employed in sinking a shaft which had reached a depth of 140 ft. The raising apparatus used consisted of a box or basket attached to a fibre rope, the upper end of which passed over a pulley and was dragged along the surface of the ground by a gang of 18 coolie women. He wished to descend and stepped into the box before more than eight of the coolies had grasped the rope. His weight proved too much for them and they let go the rope when he was ten feet from the bottom. He sprained his knee, but was able to get into the basket, hold on to the rope whilst being raised, and walk about 150 yds to his home. Two days later he contracted fever and on the fourth day he died. It was claimed that the fall was not the cause of his death. Inspection and inquiry made.
9	2nd December, 5 P.M.	Loyabad Mine, Kusunda P. O., Manbhum, Bengal.	Barakar Coal Co., Ld.	Bhowni, (*f.*), 28.	Coal .	Not employed.	Fell into a well whilst drawing water and was drowned.
10	?	Brahmanbarari Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Musgid, (*f.*), 1½.	Coal .	Not employed.	The body was found floating in a pond containing about two feet of water. How it got there is not known. No marks of violence were found on the body. Accidentally drowned.

APPENDIX II.

Table No. 1.

Indian Mines Act, Number of Mines and Workers, year 1906.

Province.	District and Mineral field.	Number of mines within the scope of the Act.	Number of mines.		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above ground.
							Below-ground.				Above-ground.				
			Worked by steam.	Not worked by steam.	Once.	Twice or more.	Adult males.	Adult females.	Children (under 12).	Total below-ground.	Adult males.	Adult females.	Children (under 12).	Total above-ground.	
A.—COAL.															
Bengal	Hazaribagh, Giridih	14	11	3	1	3	3,345	1,100	47	4,492	1,965	1,204	189	3 358	7 850
	Manbhum, Jharia	129	103	26	54	22	15,461	10,915	541	26,917	8,177	4,068	903	13,148	40,065
	Manbhum, Raniganj	20	15	5	5	2	1,872	695	4	2,571	598	232	22	852	3,423
	Bankura, "	2	1	1	...	...	35	10	...	45	20	25	...	45	90
	Birbhum, "	1	1	...	...	...	17	12	...	29	2	1	..	3	32
	Burdwan, "	100	98	2	28	31	15,002	5,697	243	20,942	5,751	3,467	353	9,571	30,513
	Sonthal Parganas, Raniganj.	2	2	...	...	...	19	6	..	25	6	4	...	10	35
	Sonthal Parganas, Rajmahal.	5	...	5	...	...	18	6	3	27	...	...	...	...	27
	Palamau, Daltonganj	1	1	...	...	...	425	100	25	550	190	90	20	300	850
	Total	274	232	42	88	58	36,194	18,541	863	55,598	16,709	9,091	1,487	27,287	82,885
Central Provinces.	Chhindwara, Pench Valley.	1	1	...	...	...	116	80	...	196	16	14	2	32	228
	Narsinghpur, Mohpani.	1	1	...	...	...	361	117	...	478	258	54	...	312	790
	Chanda, Warora and Ballarpur.	2	2	...	1	...	445	...	...	445	391	26	...	417	862
	Total	4	4	...	1	...	922	197	...	1,119	665	94	2	761	1,880
Punjab	Jhelum	4	1	3	6	...	1,134	...	2	1,136	612	1	23	636	1,772
	Shahpur	5	...	5	...	...	555	...	...	555	186	...	...	186	741
	Attock	2	...	2	...	...	8	...	...	8	1	...	...	1	9
	Total	11	1	10	6	...	1,697	...	2	1,699	799	1	23	823	2,522
Eastern Bengal and Assam.	Lakhimpur	5	5	...	2	...	783	382	...	1,165	376	232	13	621	1,786
	Khasi and Jaintia Hills	1	...	1	...	...	20	...	...	20	4	...	6	10	30
	Sibsagar, Dikhu Valley	1	...	1	...	...	30	...	...	30	...	3	...	3	33
	Total	7	5	2	2	...	833	382	...	1,215	380	235	19	634	1,849
Baluchistan	Sibi, Khost	2	2	...	6	...	465	...	...	465	223	...	16	239	704
	Quetta, Sor Range	3	...	3	...	...	76	...	...	76	27	...	...	27	103
	Kalat, Mach and Digari	3	...	3	...	...	140	...	...	140	18	1	6	25	165
	Loralai, Loralai	1	...	1	...	...	10	...	...	10	...	...	...	...	10
	Total	9	2	7	6	...	691	...	...	691	268	1	22	291	982
Burma	Chindwin	2	...	2	...	...	15	1	...	16	25	...	...	25	41
	GRAND TOTAL (Coal).	307	244	63	103	58	40,352	19,121	865	60,338	18,846	9,422	1,553	29,821	90,159
B.—MICA.															
Bengal	Monghyr	2	...	2	...	...	25	...	...	25	44	18	2	64	89
	Hazaribagh	213	...	213	...	...	2,312	802	168	3,282	920	748	1,187	2,855	6,137
	Gaya	8	...	8	...	...	660	335	48	1,043	224	137	86	447	1,490
	Total	223	...	223	...	...	2,997	1,137	216	4,350	1,188	903	1,275	3,366	7,716
Madras	Nellore	106	...	106	36	...	2,132	1,519	138	3,789	1,134	1,204	1,064	3,402	7,191
	Nilgiris	2	...	2	...	...	102	15	...	117	431	244	24	699	816
	Total	108	...	108	36	...	2,234	1,534	138	3,906	1,565	1,448	1,088	4,101	8,007
Rajputana	Ajmer-Merwara	3	...	3	...	...	172	66	23	261	...	...	...	...	261
	GRAND TOTAL (Mica).	334	...	334	36	...	5,403	2,737	397	8,517	2,753	2,351	2,363	7,467	15,984
C.—MANGANESE ORE.															
Central Provinces.	Nagpur	17	...	17	...	...	996	554	...	1,550	438	316	41	795	2,345
	Bhandara	7	...	7	...	...	214	236	...	450	348	175	...	523	973
	Balaghat	5	...	5	...	...	1,220	274	...	1,494	148	113	81	342	1,836
	Total	29	...	29	...	...	2,430	1,064	...	3,494	934	604	122	1,660	5,154
Madras	Vizagapatam	11	...	11	...	...	1,822	986	50	2,858	1,653	1,047	290	2,990	5,848
Bombay	Belgaum	1	...	1	...	...	18	27	3	48	...	...	...	...	48
	Panch Mahals	1	...	1	...	...	...	...	...	...	125	56	42	223	223
	Total	2	...	2	...	...	18	27	3	48	125	56	42	223	271
	GRAND TOTAL (Manganese).	42	...	42	...	...	4,270	2,077	53	6,400	2,712	1,707	454	4,873	11,273

APPENDIX II—*contd.*

Table No. I—*concld.*

Indian Mines Act, Number of Mines and Workers, year 1906—*concld.*

District and Mineral field.	Number of mines within the scope of the Act.	Number of mines.		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above-ground.
						Below-ground.				Above-ground.				
		Worked by steam.	Not worked by steam	Once.	Twice or more.	Adult males.	Adult females	Children (under 12).	Total below-ground.	Adult males.	Adult females.	Children (under 12).	Total above-ground.	
D.—LIMESTONE.														
Jabalpur, Katni	20	...	20	...	...	481	434	28	943	386	456	71	913	1,856
Hoshiarpur	1	...	1	...	...	30	...	...	30	15	...	...	15	45
GRAND TOTAL (Limestone).	21	...	21	...	...	511	434	28	973	401	456	71	928	1,901
E.—SALT.														
Shahpur	1	...	1	...	...	23	24	...	47	18	...	...	18	65
Jhelum	2	...	2	1	...	490	419	62	971	82	...	...	82	1,053
Mianwali	1	...	1	...	...	52	...	...	52	...	...	...	...	52
GRAND TOTAL (Salt).	4	...	4	1	...	565	443	62	1,070	100	...	...	100	1,170
F.—GEMS.														
Mogok (Rubies, etc.)	8	8	...	...	...	80	...	...	80	2,287	...	...	2,287	2,367
G.—SLATE.														

APPENDIX II—*contd.*

Table No. 2.

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mine Act, during the year 1906.

Province.	District and Mineral field.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths.			Number of serious non-fatal accidents.	Number of persons seriously injured.			Death-rates per 1,000 persons employed.		
					Below-ground.	Above-ground.	Total deaths.		Below-ground.	Above-ground.	Total number of persons injured.	Below-ground.	Above-ground.	Below and above ground.
			Tons. A.—COAL.											
Bengal	Hazaribagh, Giridih	7,850	803,321	2	2	...	2	11	9	2	11	0·45	...	0·26
	Manbhum, Jharia	40,065	4,076,591	25	22	5	27	17	13	4	17	0·82	0·38	0·67
	Manbhum, Raniganj	3,423	356,123	3	2	1	3	1	...	1	1	0·78	1·17	0·88
	Bankura, ,,	90	5,855	...	...	...	...	...	...	...	...	...	..	...
	Birbhum, ,,	32	4,264	...	...	..	..	...	...	...	...	...	...	...
	Burdwan, ,,	30,513	3,232,412	25	29	2	31	15	14	2	16	1·39	0·21	1·02
	Sonthal Parganas, ,, Rajmahal	35	1,911	..	...	...	...	...	...	...	...	...	...	...
	,, ,,	27	577	...	...	...	...	...	...	...	...	...	...	...
	Palamau, Daltonganj	850	86,768	...	...	...	...	1	1	...	1	...	...	...
	TOTAL	82,885	8,617,520	55	55	8	63	45	37	9	46	0·99	0·29	0·76
Central Provinces.	Chhindwara, Pench Valley	228	32,102	...	...	...	...	...	...	...	...	...	...	...
	Narsinghpur, Mohpani	790	27,503	...	...	...	...	1	...	1	1	...	...	...
	Chanda, Warora and Ballarpur	862	33,243	1	1	...	1	2	2	...	2	2·25	...	1·16
	TOTAL	1,880	92,848	1	1	...	1	3	2	1	3	0·89	...	0·53
Punjab	Jhelum	1,772	57,438	1	1	...	1	3	1	2	3	0·88	...	0·57
	Shahpur	741	15,671	1	1	...	1	...	...	...	...	1·80	...	1·35
	Attock	9	10	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	2,522	73,119	2	2	...	2	3	1	2	3	1·18	...	0·79
Eastern Bengal and Assam.	Lakhimpur	1,786	285,402	4	8	...	8	1	1	...	1	6·87	...	4·48
	Khasi and Jaintia Hills	30	65	...	...	...	...	...	...	...	...	...	...	...
	Sibsagar, Dikhu Valley	33	23	...	..	...	...	...	...	...	...	...	...	...
	TOTAL	1,849	285,490	4	8	...	8	1	1	...	1	6·58	...	4·33
Baluchistan	Sibi, Khost	704	32,500	4	5	...	5	2	2	...	2	10·75	...	7·10
	Quetta, Sor Range	103	5,380	1	1	...	1	...	...	...	...	13·16	...	9·70
	Kalat, Mach and Digari	165	3,484	...	...	...	...	...	...	...	...	...	...	...
	Loralai	10	800	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	982	42,164	5	6	...	6	2	2	...	2	8·69	...	6·11
Burma	Chindwin	41	1,222	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (COAL)	90,159	9,112,663	67	72	8	80	2	2	...	2	1·19	0·27	0·89
			Cwt. B.—MICA.											
Bengal	Monghyr	89	271	2	2	...	2	...	...	...	...	80·0	...	22·47
	Hazaribagh	6,137	14,376	2	5	...	5	...	...	...	...	1·52	...	0·81
	Gaya	1,490	6,385	1	1	...	1	—	...	...	...	0·96	...	0·67
	TOTAL	7,716	21,032	5	8	...	8	...	...	...	...	1·84	...	1·04
Madras	Nellore	7,191	24,266	2	1	1	2	...	...	...	...	0·26	0·29	0·28
	Nilgiris	816	139	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	8,007	24,405	2	1	1	2	...	...	...	...	0·26	0·24	0·25
Rajputana	Ajmer-Merwara	261	5,001	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (MICA)	15,984	50,438	7	9	1	10	...	...	...	...	1·05	0·13	0·62
			Tons. C.—MANGANESE ORE.											
Central Provinces.	Nagpur	2,345	135,513	1	1	...	1	2	1	1	2	0·45	...	0·42
	Bhandara	913	85,419	...	...	...	...	...	...	...	...	...	...	...
	Balaghat	1,836	99,027	...	...	...	...	4	2	3	5	...	...	...
	TOTAL	5,154	319,959	1	1	...	1	6	3	4	7	0·28	...	0·19
Madras	Vizagapatam	5,848	108,966	1	5	...	5	...	...	...	...	1·75	...	0·86
Bombay	Belgaum	48	234	...	...	...	...	...	...	...	...	...	...	...
	Panch Mahals	223	7,283	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	271	7,517	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (MANGANESE)	11,273	436,442	2	6	...	6	6	3	4	7	0·94	...	0·53

APPENDIX II—*contd.*

Table No. 2—*concld.*

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mines Act, during the year 1906.

Province.	District and Mineral field.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths.			Number of serious non-fatal accidents.	Number of persons seriously injured.			Death-rates per 1,000 persons employed.		
					Below-ground.	Above-ground.	Total deaths.		Below-ground.	Above-ground.	Total number of persons injured.	Below-ground.	Above-ground.	Below and above-ground.
			D.—LIMESTONE.											
Central Provinces	Jabalpur, Katni	1,856	Tons. 47,836	...	...	...	...	...	...	...	...	...	...	...
Punjab	Hoshiarpur	45	1,000	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (Limestone)	**1,901**	**48,836**	...	...	...	...	...	...	...	...	...	...	...
			E.—SALT.											
Punjab	Shahpur	65	6,040	...	...	...	...	1	1	...	1	...	...	...
	Jhelum	1,053	101,189	...	...	...	...	10	8	2	10	...	...	...
	Mianwali	52	10,794	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (Salt)	**1,170**	**118,023**	...	...	...	...	**11**	**9**	**2**	**11**	...	...	...
			F.—GEMS.											
Burma	Mogok (Rubies, etc.)	2,367	Carats. 324,410	3	4	...	4	2	2	...	2	50	...	1·69
			G.—SLATE.											
Bengal	Monghyr	265	Tons. 2,049	1	1	...	1	1	1	...	1	5·30	...	3·77
Punjab	Gurgaon	233	2,173	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (Slate)	**498**	**4,222**	**1**	**1**	...	**1**	**1**	**1**	...	**1**	**3·81**	...	**2·01**
			H.—GOLD.											
Bombay	Dharwar	2,051	...	...	4	5	...	5	4	4	2	6	6·27	...	2·43
Madras	Nilgiris	1,192	...	...	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (Gold)	**3,243**	...	...	**4**	**5**	...	**5**	**4**	**4**	**2**	**6**	**2·68**	...	**1·51**
			I.—IRON ORE.											
Central Provinces	Jabalpur	60	Tons. 305*	...	...	...	...	...	...	...	...	...	...	...
Bengal	Singhbhum	757	7,563	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (Iron Ore)	**817**	**7,868**	...	...	...	...	...	...	...	...	...	...	...
			J.—MAGNESITE.											
Madras	Salem	89	1,832	...	...	..	...	...	..	...	...	..	...	
			K.—GRAPHITE.											
Madras	Vizagapatam	20	4	...	...	...	...	...	...	...	...	...	...	...
			L.—FULLER'S EARTH.											
Central Provinces	Jabalpur, Katni	8	112	...	...	...	...	...	...	...	...	...	...	...
			M.—COPPER.											
Central Provinces	Jabalpur	85	...	...	...	...	...	...	...	...	...	...	...	...
			N.—JADE.											
Burma	Myitkyina	1,038	111	...	...	...	...	...	...	...	..	...	...	...
			O.—LEAD.											
Bengal	Sambalpur	14	10 lbs. for sample.	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (All minerals)	**128,666**	Tons. 9,780,551 Carats. 324,410 Lbs. 10	**84**	**97**	**9**	**106**	**26**	**21**	**8**	**29**	**1·21**	**0·19**	**0·82**

* Including 100 tons of Iron-oxide.

APPENDIX II—*contd.*

Table No. 3.

The following table is a summary of the average number of persons working daily in and about mines regulated by the Indian Mines Act, during the year 1906.

Province.	Average number of persons working daily in and about mines getting						
	Coal.	Mica.	Manganese.	Limestone.	Salt.	Other minerals.	Total persons.
Bengal	82,885	7,716	...	...	...	1,036	91,637
Central Provinces	1,880	...	5,154	1,856	...	153	9,043
Madras	...	8,007	5,848	...	...	1,301	15,156
Eastern Bengal and Assam	1,849	...	...	...	...	...	1,849
Baluchistan	982	...	...	...	...	...	982
Punjab	2,522	...	...	45	1,170	233	3,970
Burma	41	...	...	...	...	3,405	3,446
Bombay	...	...	271	...	...	2,051	2,322
Rajputana	...	261	...	...	...	..	261
Total 1906	90,159	15,984	11,273	1,901	1,170	8,179	128,666
Total in preceding year	80,496	15,581	5,122	2,138	1,196	5,054	109,587
Difference	+9,663	+403	+6,151	−237	−26	+3,125	+19,079

Table No. 4.

Quantity of Mineral raised.

The following short summary shows the output of the principal minerals from mines regulated by the Indian Mines Act for the year 1906.

Province.	Coal.	Manganese Ore.	Mica	Limestone.	Salt.
	Statute Tons.	Statute Tons.	Statute Cwts.	Statute Tons.	Statute Tons.
Bengal	8,617,820	...	21,032	...	...
Central Provinces	92,848	319,959	...	47,836	...
Madras	...	108,966	24,405	...	...
Eastern Bengal and Assam	285,490	...	...	...	...
Baluchistan	42,164	...	...	...	...
Punjab	73,119	...	...	1,000	118,023
Rajputana	...	...	5,001	...	...
Bombay	...	7,517	...	...	...
Burma	1,222	...	...	...	...
Total in 1906	9,112,663	436,442	50,438	48,836	118,023
Total in preceding year	7,762,779	204,194	25,548	93,170	94,078
Difference	+1,349,884	+232,248	+24,890	−44,334	+23,945

APPENDIX II—*contd.*

Table No. 5.

The following table shows the average number of persons working daily in and about mines regulated by the Indian Mines Act, during the years 1905 and 1906.

ALL MINES UNDER THE ACT.

Description of workers.	Year 1905.	Year 1906.	Difference.
	Below-ground.	Below-ground.	Below-ground.
Adult Males	46,782	53,817	+ 7,035
Adult Females	21,830	24,921	+ 3,091
Children under 12	1,339	1,420	+ 81
TOTAL BELOW-GROUND	69,951	80,158	+10,207
	Above-ground.	Above-ground.	Above-ground.
Adult Males	23,306	29,236	+ 5,930
Adult Females	11,813	14,661	+ 2,848
Children under 12	4,517	4,611	+ 94
TOTAL ABOVE-GROUND	39,636	48,508	+ 8,872
TOTAL BELOW AND ABOVE-GROUND	109,587	128,666	+19,079

ALL COAL-MINES UNDER THE ACT.

Description of workers.	Year 1905.	Year 1906.	Difference.
	Below-ground.	Below-ground.	Below-ground.
Adult Males	37,107	40,352	+ 3,245
Adult Females	16,244	19,121	+ 2,877
Children under 12	735	865	+ 130
TOTAL BELOW-GROUND	54,086	60,338	+ 6,252
	Above-ground.	Above-ground.	Above-ground.
Adult Males	16,907	18,846	+ 1,939
Adult Females	7,959	9,422	+ 1,463
Children under 12	1,544	1,553	+ 9
TOTAL ABOVE-GROUND	26,410	29,821	+ 3,411
TOTAL BELOW AND ABOVE-GROUND	80,496	90,159	+ 9,663

Table No. 6.

The following table shows the fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act, 1901. The other minerals raised are gems, slate, iron ore, magnesite, graphite, clay and jade.

Year.	Coal.	Manganese Ore.	Mica.	Limestone.	Salt.
	Tons.	Tons.	Cwts.	Tons.	Tons.
1899	4,622,242	87,126	10,860	1,177	78,754
1900	5,452,408	92,458	18,320	...	79,996
1901	6,251,522	162,057	19,900	28,000	90,242
1902	6,790,507	144,037	21,360	30,091	87,361
1903	6,812,725	171,223	20,100	35,238	90,667
1904	7,561,338	138,733	21,320	50,847	107,413
1905	7,770,471	204,194	25,548	93,170	94,078
1906	9,112,663	436,442	50,438	48,836	118,023

APPENDIX II—*contd.*

Table No. 7.

The following table shows the amount of coal raised, the average number of persons working daily and the death-rates during the years 1899 to 1906 in respect of coal mines under the Indian Mines Act.

Year.	Amount of coal raised.	Average number of persons working daily below and above-ground.	Number of deaths below and above-ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 persons working daily below and above-ground.
1899 . . .	4,622,242	65,795	73	15·79	1·11
1900 . . .	5,452,408	80,003	52	9·53	·64
1901 . . .	6,251,522	85,361	58	9·28	·67
1902 . . .	6,790,507	89,505	59	8·69	·66
1903 . . .	6,812,725	79,561	67	9·83	·84
1904 . . .	7,561,338	82,002	55	7·27	·67
1905 . . .	7,770,471	79,506	58	7·46	·72
1906 . . .	9,112,663	90,159	80	8·78	0·89

Table No. 8.

Statement showing the output of coal, the number of persons employed, and the number of tons of coal raised per person employed in and about the coal mines of the principal coal-producing countries of the world.

Year.	Countries.	Tons of coal raised.	Persons employed.	Tons raised per person employed.
1905	United Kingdom . . .	236,128,936	843,418	280
1904	United States . . .	314,564,023	594,768	529
,,	Germany	166,773,263	543,479	307
,,	Austria	33,320,972	119,239	279
,,	France	38,628,112	171,792	196
,,	Belgium	22,401,799	138,567	162
,,	Nova Scotia	5,247,135	11,659	450
,,	British Columbia . . .	1,253,628	4,453	378
,,	Australia	6,853,224	14,034	488
,,	Natal	858,298	4,792	179
,,	Transvaal	2,409,033	8,558	281
1903	Japan	9,929,441	84,941	117
1902	Russia	16,205,675	105,688	153
	Totals and average .	849,573,539	2,645,388	318
1906	**British India . . .**	9,112,663	90,159	101

APPENDIX II—*contd.*

Table No. 9.

Fatal accidents and deaths in mines regulated by the Indian Mines Act, 1901, during the year 1906, classified according to the mineral worked.

Mineral.	Province and Mineral Area.	Number of separate fatal accidents.	Number of Deaths.								
			Below-ground.				Above-ground.				Total below and above-ground.
			Adult males.	Adult females.	Children (under 12).	Total.	Adult males.	Adult females.	Children (under 12).	Total.	
Coal	Eastern Bengal and Assam	4	8	...	...	8	...	...	...	...	8
	Baluchistan	5	6	...	...	6	...	...	...	...	6
	Bengal — Giridih	2	2	...	...	2	...	...	...	...	2
	Bengal — Jharia	25	19	3	...	22	3	2	...	5	27
	Bengal — Raniganj	28	22	9	...	31	3	...	...	3	34
	Total (Bengal)	55	43	12	...	55	6	2	...	8	63
	Central Provinces	1	1	...	...	1	...	...	...	...	1
	Punjab	2	2	...	...	2	...	...	...	...	2
	Total Coal	67	60	12	...	72	6	2	...	8	80
Mica	Bengal	5	8	...	...	8	...	...	...	...	8
	Madras	2	1	...	...	1	1	...	...	1	2
	Total Mica	7	9	...	...	9	1	...	...	1	10
Manganese.	Central Provinces	1	1	...	...	1	...	...	...	...	1
	Madras	1	4	1	...	5	...	...	...	...	5
	Total Manganese	2	5	1	...	6	...	...	...	...	6
Gems	Burma	3	4	...	...	4	...	...	...	...	4
Gold	Bombay	4	5	...	...	5	...	...	...	...	5
Slate	Bengal	1	1	...	...	1	...	...	...	...	1
Grand total, all minerals		84	84	13	...	97	7	2	...	9	106

APPENDIX II—*contd.*

Table No. 10.

Fatal accidents and deaths classified according to causes.

Causes of Accidents.	1906.				
		Deaths.			
	Number of separate accidents.	Adult Males.	Adult Females.	Children (under 12.)	Total.
BELOW-GROUND.					
Explosions of Fire-damp	2	4	...	...	4
Falls in Mines.					
Falls of roof, stone or coal	21	20	4	...	24
„ „ sides	17	23	4	...	27
Total	38	43	8	...	51
In shafts.					
Whilst ascending or descending by machinery	6	5	2	...	7
Falling into shaft from the surface	3	3	...	...	3
Falling from a part of the way down	3	3	...	...	3
Things falling from surface	2	2	...	...	2
„ „ „ part of the way down	1	1	...	...	1
Miscellaneous	4	3	1	...	4
Total	19	17	3	...	20
Miscellaneous below-ground.					
Suffocation by gases	1	4	...	...	4
By explosives	4	4	...	...	4
Haulage	9	9	2	...	11
Sundries under-ground	3	3	...	...	3
Total	17	20	2	...	22
Total below-ground	76	84	13	...	97
ABOVE-GROUND.					
On surface railways and tramways belonging to the mine.	4	3	1	...	4
Miscellaneous on surface	4	4	1	...	5
Total above-ground	8	7	2	...	9
GRAND TOTAL	84	91	15	...	106

APPENDIX II.—*contd.*

Table No. 11.

Accidents, 1906.

Classified as to cause and mineral worked.

Mineral worked.	Number of separate fatal accidents.	Number of persons killed.										Death-rate per 1,000 persons employed.		
		Explosions of fire-damp.	Falls of roof.	Falls of side.	In shafts.	Suffocation by gases.	Explosives.	Haulage.	Miscellaneous below-ground.	Surface.	Total deaths.	Below-ground.	Above-ground.	Below and above-ground.
Coal	67	4	19	11	20	4	2	10	2	8	80	1·19	0·27	0·89
Mica	7	...	1	8	...	...	...	...	...	1	10	1·05	0·13	0·62
Limestone	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Manganese	2	.	...	6	...	...	...	...	...	...	6	0·94	...	0·53
Gems	3	...	...	2	...	...	...	1	1	...	4	50	...	1·69
Gold	4	...	3	...	...	...	2	...	...	...	5	2·68	...	1·51
Slate	1	...	1	...	...	...	...	...	...	...	1	3·81	...	2·01
Total, 1906	84	4	24	27	20	4	4	11	3	9	106	1·21	0·19	0·82
Total, preceding year	65	...	20	10	12	...	4	11	6	8	71	·90	·20	·64
Difference	19	4	4	17	8	4	...	...	—3	1	35	0·31	—0·01	0·18

Table No. 12.

Statement of Prosecutions instituted under the Indian Mines Act (VIII of 1901), during the year ending 31st December 1906.

Province.	District.	Number of prosecutions.	Number of persons prosecuted.	Number convicted.	Remarks.
Bengal	Burdwan	1	6	6	

APPENDIX II—*concluded.*

Table No. 13.

Number of Inspections by District and other Officers, 1906.

District and Mineral area.			Number of mines inspected.		
			Once.	Twice.	More than twice.
COAL.					
Bengal—					
Bankura	Raniganj		2	1	...
Birbhum	Raniganj		1	...	...
Burdwan	Raniganj		3	...	...
Palamau, Daltonganj	Raniganj		1	1	...
Sonthal Parganas, Rajmahal	Raniganj		2	...	...
Hazaribagh—Giridih			2	...	...
Manbhum—Jharia			11	1	...
			22	3	...
Eastern Bengal and Assam—Lakhimpur			1	...	...
Burma—Upper Chindwin			...	1	...
Punjab—Jhelum			1	...	...
TOTAL AT COAL MINES			24	4	...
MICA.					
Bengal—Gya			3	...	...
Madras—Nellore			8	...	...
TOTAL AT MICA MINES			11	...	...
MANGANESE.					
Central Provinces	Balaghat		5	1	...
Central Provinces	Bhandara		...	1	...
Central Provinces	Nagpur		16	...	...
			21	2	...
Madras—Vizagapatam			1	...	...
Bombay—Panch Mahals			...	1	...
TOTAL AT MANGANESE MINES			22	3	...
LIMESTONE.					
Central Provinces			3	...	...
GEMS.					
Burma—Ruby Mines District			3	...	...
IRON ORE.					
Bengal—Singhbhum			3	...	...
MAGNESITE.					
Madras—Salem			2	...	...
GRAND TOTAL			71	7	...

APPENDIX III.

Table No. 1.

Inspections and enquiries made under Section 5 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December 1906.

Registered number.	Name of mine, and description of land acquired.	Name of owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
47	Bhalgora Coal Mine — Bhalgora siding of the East Indian Railway.	Bhalgora Coal Co., Ld.	27th March 1906	G. F. Adams.
48	Dhundabad Coal Mine — Assisted siding which takes off from the Salanpur Branch of the East Indian Railway.	New Manbhum Coal Co., Ld.	.....	James Grundy.
49	Kusunda and Nyadi Coal Mine— Alkusa siding taking off from the Damuda Branch of the East Indian Railway at mile 172-1077 feet from Calcutta.	Kusunda and Nyadi Collieries, Ld.	.....	G. F. Adams.
50	Bhagaband Coal Mine — Jamadoba loop and Kendwadih Branch of the Bengal Nagpur Railway.	Borrea Coal Co., Ld.	28th August 1906	Ditto.
51	Laikdih Coal Mine — East Indian Railway Co.'s siding.	Bengal Coal Co., Ld.	Land not formally acquired by the Government of Bengal (No. 1178, dated 3rd March 1906).	James Grundy.
52	Katras Coal Mine— Katras-Kanadih extension of the East Indian Railway.	Nowagarh Coal Co., Ld.	28th June 1906	G. F. Adams.
53	Jotejanaki Coal Mine — Branch siding off the Singaran siding of the East Indian Railway.	Singaran Coal Syndicate, Ld.	12th September 1906	James Grundy.
54	Jharia Khas Coal Mine — Jharia Khas siding of the East Indian Railway.	Standard Coal Co., Ld.	Colliery Co. decided not to drive inclines, further action stopped.	W. H. Pickering.
56	Surataur Coal Mine— Surataur assisted siding of the East Indian Railway.	K. B. Seal	30th July 1906	G. F. Adams.
57	Bhowra Coal Mine — Bhowra Branch and siding, Midnapur-Jharia extension of the Bengal Nagpur Railway.	Eastern Coal Co., Ld.	10th September 1906	W. H. Pickering.
59	Jamuria Coal Mine — Ikrah Branch of the East Indian Railway.	Equitable Coal Co., Ld.	10th November 1906	James Grundy.
60	Chanch Coal Mine — Land acquired for the safety of the Khudia bridge on the Chanch Branch of the East Indian Railway.	Bengal Coal Co., Ld.	22nd November 1906	Ditto.
62	Damudapur Coal Mine — Ikrah Branch of the East Indian Railway.	Ditto	24th November 1906	Ditto.
63	Shampur Coal Mine— Shampur siding of the Jharia Branch of the East Indian Railway.	Shampur Coal Co., Ld.	4th February 1907	Ditto
64	Sudamdih Coal Mine— Pathardih link of the Bengal Nagpur Railway.	Empire Coal Co., Ld.	.....	G. F. Adams
65	Busserya Coal Mine— Bansdebpur siding of the East Indian Railway.	Busserya Coal Co., Ld.	.....	Ditto.
36	Lodna Coal Mine— No. 2 assisted siding off the Bhaga Branch of the East Indian Railway.	Lodna Colliery Co., Ld.	.....	Ditto.

APPENDIX III—*contd.*

Table No. 2.

Inspections and enquiries made under Section 11 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December 1906.

Registered number.	Name of mine, and description of land acquired.	Name of owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
3	Phularibad Coal Mine— Surataur joint assisted siding of the East Indian Railway.	Khas Jharia Coal Co.	24th August 1906	G. F. Adams.
4	Jharia Khas (Benahir) Coal Mine— Surataur siding of the East Indian Railway.	Standard Coal Co., Ld.	No fresh declaration necessary.	James Grundy.
12	Kusunda and Nyadi Coal Mine— Kustore siding and Damuda Branch of the East Indian Railway.	Kusunda and Nyadi Collieries, Ld.	5th March 1906	G. F. Adams.
18	Bhuggutdih Coal Mine— Assisted siding of the East Indian Railway.	Bengal Nagpur Coal Co.	16th February 1907	Ditto.
23	Surataur Coal Mine— Surataur siding of the East Indian Railway.	P. K. Roy	.....	Ditto.
31	Loyabad Coal Mine— Loyabad siding of the East Indian Railway.	Barakar Coal Co., Ld.	.....	Ditto.
35	Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway at 177 miles and 2 furlongs, and assisted siding.	C. J. Smith	.....	James Grundy.
40	Mouzra Coal Mine— Ondal loop, Toposi Branch of the East Indian Railway.	Basanti Oakdene Coal Co.	.....	Ditto.
44	Kunkani Coal Mine— Kunkani assisted siding of the East Indian Railway.	Eastern Coal Co., Ld.	26th January 1907	G. F. Adams.
46	Angarpatra Coal Mine— Land in village Angarpatra.	J. N. Srimani	.....	Ditto.
55	Charanpur Coal Mine— Ikrah Branch of the East Indian Railway.	Apcar & Co.	21st April 1906	James Grundy.
58	Gopinathpur Coal Mine— Land acquired for the East Indian Railway Co. at Mugma Station.	Mugma Coal Association	Very little work done under acquired land. No action required at present.	Ditto.

Table No. 3.

List of plans of abandoned and discontinued mines received during the year 1906.

Registered number.	Name and situation of mine.	Name or number of seam.	Name of mineral worked.	Name of owner.	Date of abandonment or discontinuance.
17	Begunia Mine, Barakar P. O., Burdwan, Bengal.	Begunia seam	Coal	John Scorer	31st December 1905.
18	Nandi-Bathanbaid Mine, Rajpur P. O., Burdwan, Bengal.	Bathanbaid seam	Do.	Sircar, Barnard & Co.	April 1905.
19	Paharidih Mine, Giridih P. O., Hazaribagh, Bengal.	Giridih main seam	Do.	Bengal Coal Co., Ld.	July 1905.

APPENDIX III—*contd.*

Table No. 3—*concld.*

List of plans of abandoned and discontinued mines received during the year 1906—*concld.*

Registered number.	Name and situation of mine.	Name and number of seam.	Name of mineral worked.	Name of owner.	Date of abandonment or discontinuance.
20	Nos. 1 and 2 Pits, Rajhara Mine, Rajhara P. O., Daltonganj, Bengal.	Rajhara seam . .	Coal . . .	Bengal Coal Co., Ld..	1st August 1906.
21	Jogitand Mine, Kurhurbari Colliery, Giridih, Hazaribagh, Bengal.	Lower seam . .	Do. . .	East Indian Railway Co.	March 1906.
22	Toposi Mine, Chaukidanga P. O., Burdwan, Bengal.	Toposi seam . .	Do. . .	Raniganj Coal Association, Ld.	February 1906.

Table No. 4.

MINING COURSE AT THE SIBPUR CIVIL ENGINEERING COLLEGE.

Students are admitted to the special mining course who have passed the Sub-Overseer examination (requiring two years' work at the College), or an equivalent examination at some other technical college. The diploma is granted to successful students after a further two years, which includes the special mining course, a detailed syllabus of which is appended.

The course of training undergone by the mining students also includes Mathematics, Physics, Chemistry, Surveying, Drawing, Engineering, and Workshops (practical). Detailed syllabuses of these courses are to be found in the College Calendar (Apprentice class).

A Bachelor of Engineering (Calcutta University) Degree in Mining is also under contemplation, the course to run parallel with the Bachelor of Engineering Degree courses in Civil, Mechanical, and Electrical Engineering.

During the year 1906 nine students took the mining course at the College.

The 1906 Students' Mining Camp was pitched at Jharia, during the months of November and December. A period of three weeks was devoted to the survey of a working mine, and the rest of the time was spent in inspecting the surface and underground works and equipment of the mines in the vicinity. The work done by the students during this period was of a high average. The privilege enjoyed, in being able to survey an actual working mine, is unique, and is due to the courtesy and good will of the managers and owners in the important mining centres of Jharia and Raniganj, those who have so far been approached on the subject by the Professor of Mining having in every case granted the privilege.

DETAILED MINES SYLLABUS.

Course I.

Geology applied to Mining.—(One lecture per week.)

Stratified and unstratified rocks. Faults, foldings, etc. Work done by rivers and glaciers. Rock-forming minerals. Introduction to study of fossils. Principal rock formations and descriptive outline of corresponding fossils. Special reference to the geology of India. Mountain and river systems. Metamorphic rocks. Dravidian and Aryan groups. Coal-bearing formations. Laterite formation.

Geological maps and sections. Methods employed in their construction. Field geology.

Mining Engineering.—(Two lectures per week.)

Boring by hand and power machines. Lining boreholes. Speeds and costs of various methods of boring compared.

Sinking through alluvial ground. Bogey, dumping-chain, folding-doors. Shaft-walling. Sinking and walling simultaneously. Tubbing a shaft. Sinking through sands and gravel and watery strata. Piling method. Iron Drum and Kind-Chaudron methods. Freezing processes. Triger's method

Table No. 4—*contd.*

Mechanical haulage. Jig bank. Direct haulage. Main and tail rope. Endless rope. Modes of application of power. Size of engine required for given work. Tensioning the rope.

Hoisting. Wood, steel, and rope guides. Safety cages and appliances. Koepe and Whiting systems. Rope-capping and cage couplings. Winding ropes. Safety factor.

Mining legislation with reference to shafts, hauling, winding, timbering, shot-firing, inspection of working places, and mine plans.

Coal mining.—(One lecture per week.)

Methods of working coal. Development of bord-and-pillar working. Main distinctions between longwall and bord-and-pillar workings. Thrust and creep. Shaft pillars. Haulage roads and their protection. "Whole" and "broken" working. Timbering of ditto. General remarks on removal of pillars. Timber withdrawal. Longwall working. Timbering and packwalls. Thick coal-working. South Staffordshire method. Indian and American methods. Special instances. Single and double stall working. Steep seam workings. Rearer workings of North Staffordshire.

Shot-firing. Coal-cutting by machinery. Different types of machines and their uses.

Working under the sea or large bodies of water. Surface subsidence.

Coal-mine plans and sections. Connecting surface and under-ground surveys.

Metal Mining.—(One lecture per week.)

Description of veins, pockets, shoots, chimneys. Lenticular masses.

Prospecting for minerals. Alluvial mining and open working. Ore beds and deep leads. Dredging for gold. Overhand and underhand stopping. Working a thick mineral vein. Timbering of metal mines. Square-set timbering. Shaft-timbering.

Hand and power drilling. Pneumatic and electric drills. Blasting. Metal mine plans.

COURSE II.

Descriptive Mineralogy.—(One lecture per week.)

Important minerals and ores. Fuels and allied materials. Methods of determination of minerals. External characteristics. Specific gravity. Forms of minerals. Systems of crystals and examples. Blowpipe assay. Scale of fusibility. Tests on borax, microcosmic salt, and charcoal. Tests with nitrate of cobalt.

Special reference to ores of iron, antimony, baryta, zinc, tin, mercury, copper, lead, manganese, gold, and silver.

Mining Engineering.—(One lecture per week.)

Drainage of mines. Adit levels. Water-buckets. Lift and force pumps. Surface arrangements for draining a sinking pit. Cornish and Hathorne-Davy pumps. Direct-acting steam pumps. Pulsometer. Centrifugal pumps. Hydraulic pumps. Auxiliary pumps for feeding up to the main pump.

Approaching old workings. Dams.

Ventilation. Stoppings, doors, regulators, air-crossings. Practical work in plan ventilation. Dumb drifts. Capell, Waddle, and Guibal fans. General reference to types of fans. Water-gauge and anemometer. Treatment of gob-fires.

Power-application in a mine. Relative merits of steam, water, compressed air, electricity, and oil as sources of applied power.

Indian Mines Acts, and legislation germane to mining.

Coal Mining.—(One lecture per week.)

Description of gases found in mines. Firedamp. Colliery explosions. Spraying apparatus. Principles and construction of safety lamps. Types of safety lamps. "Caps" on safety lamp flame. Instruments for detecting firedamp:—opal spectacles, Liveing's and Ansell's indicators, alcohol lamp, hydrogen lamp, Beard-Mackie lamp. Treatment of persons overcome by foul air.

Surface arrangements at a colliery. How they are made automatic as far as possible. Sorting and screening. Tipplers, creepers. Coal-washing,—types of machines. Coking—types of ovens. Recovery of bye-products.

Metal Mining.—(One lecture per week.)

Ore-dressing. Concentration by means of water. Blake crusher. Dodge crusher. Gyratory crushers. Huntington mill. Stamp batteries. Materials required for running a stamp battery. Classification of pulverisers. Arrastra. Amalgamating pans. Jigs, and jig-products. Magnetic separation. Roasting for magnetism. Pneumatic separation. Less important methods of concentration.

Fine sand and slime concentrators. Vanners, pumping or jerking tables; film-sizing tables. Prospector's cradle. Treatment of refractory ores, sands, and slimes. Cyanide and chlorination treatment.

PRACTICAL MINING AND MINE SURVEYING.

Students are required to spend six weeks in camp, each year of the course, in a mining district, of which about three weeks will be devoted to the surveying of an actual working mine, the remainder of the time being spent in visiting and inspecting the workings and

APPENDIX III—*contd.*

Table No. 4—*concld.*

equipment of mines in the vicinity. The surveying will consist of a plan of the mine, with surface connections, and one or more sections along a haulage road. The plan and sections, and the notes on mine equipment made during camp, will form the basis of the "Attested drawings and designs" required from the Degree students.

ATTESTED DRAWINGS AND DESIGNS.

(1) Plan of mine workings, based on survey done in camp, suited for an output of 1,500 tons per day, showing surface buildings, railways, waterways, etc., and pillars left for their protection; showing also doors, regulators, stoppings, etc., for ventilation purposes. On a scale not smaller than 100 ft. to the inch.

(2) Section of a haulage road, showing new formation level for purposes of installing mechanical haulage.

(3) Section of upcast shaft, showing fan-drift, fan-house, and fan.

(4) Vertical section of downcast shaft, showing pumps, steam-pipes, cages.

(5) Plan of downcast shaft.

(6) General plan of surface arrangements, showing position of tipplers, screens, coke-ovens, boilers, engines, etc.

(7) Section of portion of shaft, to show walling curb and brick work and wedging curb with tubbing.

Table No. 5.

MINING INSTRUCTION IN BENGAL.

Preliminary.—The scheme of instruction is designed to afford facilities for persons employed in coal mines to be trained in the principles of mining.

The following centres have been established and Sub-Committees appointed :—

RANIGANJ DISTRICT.

Sanctoria Centre.	*Charanpur Centre.*
Mr. Jas. Grundy.	Mr. Jas. Grundy.
„ Wm. Miller.	„ Robert Mitchell.
„ A. Sheridan.	„ E. M. Patterson.

JHARIA DISTRICT.

Jharia Centre.	*Sijua Centre.*
Mr. G. F. Adams.	Mr. G. F. Adams.
„ J. J. Turnbull.	„ H. C. Veasey.
„ Geo. Miller.	„ E. Bennertz.

The Mining Instructor will visit each centre once a week.

The regular courses of instruction, consisting of about 25 lectures, will begin in November 1906, and continue to the commencement of the rainy season, 1907.

For the present year a series of preliminary lectures will be given so far as possible at each centre.

Each year, at the end of the course, an examination will be held.

A candidate who passes the examination will receive a certificate recording his success. No candidate, however, will be permitted to sit for examination unless he has attended seventy-five per cent. of the lectures forming a course.

SYLLABUS OF THE COURSE OF INSTRUCTION.

The course will treat principally of the more practical operations in actual mining, with special reference to India, and the principles underlying such operations will be thoroughly discussed.

Special attention will be paid to the various methods of working thick seams.

APPENDIX III—*contd.*

Table No. 5—*concld.*

Geology.—General structure of the crust of the earth: Definitions and descriptions of fault, dyke, outcrop, dip, strike, unconformity, etc.: composition and properties of coal: special reference to the coal measures in India: Importance of recording results of observations.

Exploration.—Advantages of borings; driving through faults, washouts, dykes, etc.: methods of maintaining the direction and gradient of such drivages.

Boring and Winning.—Different systems of boring; choice of methods; cost of boring. Winning coal by inclines, adits, shafts, shafts and crosscut.

Sinking.—Site of colliery; position of shafts, excavation and shape; blasting with use of safety fuse and electric battery; explosives and detonators, their safe storing and handling; lining the shafts and scaffolding; sinking pit banking arrangements, bowks, water barrels, bull chain and hook, etc. Special difficulties in sinking and how to deal with them.

Opening out and methods of working.—Shafts pillars; arching or supporting the pit bottom; quarrying; pillar and stall; double road stall; longwall.

Thick coal.—Methods of working in South Staffordshire and Warwickshire, in Upper Silesia and France; methods of working thick seams by longwall, by inclined slices, and by horizontal slices, also the Rabatage System.

Timbering and Supporting.—Fixing of props and double timber; chocks or cogs; special methods of timbering to withstand pressure from the roof, sides and floor; securing dangerous holes in the roof due to heavy falls; use of iron or steel girders; stowing and packing; arching.

Gases met with in coal mines.—Their experimental preparation by chemicals and illustration of their physical and physiological properties; methods of detecting; explosion and gob fires.

Ventilation.—Natural and artificial methods; coursing the air; use of stoppings, brattices, doors, airbridges, regulators, etc.; measuring the quantity of air; use of thermometer, barometer, watergauge, anemometer: the friction of air in mines and the elementary theory of splitting.

Safety lamps.—Theory of the safety lamp, Sir Humphrey Davy's Experiment; the Davy lamp, the Clanny and Thomas and Williams lamps, the Marsaut and Mueseler lamps; fire-damp detectors.

Mechanical Engineering of Collieries.—Winding engines; discussion of the different types; calculation of the dimensions of cylinders, length of stroke, diameter of drum, etc.; strength of winding ropes and chains, detaching hooks, capping winding ropes; care and examination of ropes.

Pumping.—Importance of a good system; measurement of quantities of water; lifting and forcing pumps; pumps for sinking; temporary and permanent pumps; calculation of dimensions of pumps to perform a given duty, etc.; strength of pipes; methods of supporting; different types of joints.

Hauling.—Tramways, tubs and wagons; conveyance by self-acting inclines; single rope haulage; main and tail; endless rope; endless chain; calculations concerning inclines, sizes of haulage engines, ropes, etc.; signalling; capping of haulage ropes.

Surface arrangements.—Boilers; Cornish, Lancashire, and watertube types; boiler fittings, injectors, and steam pipes, etc.; boiler explosions, incrustation, corrosion, and priming; calculations on boilers; Heap steads; arrangement of roads around pit bank; simple screening and sizing.

Transmission of power by steam, compressed air, and electricity; discussing the relative merits of each system.

Coke.—Its production and composition; different types of ovens; recovery of bye-products.

Table No. 6.

NOTIFICATION No. 3399.

DEPARTMENT OF MINES IN INDIA.

Regulations made by the Board of Examiners under Rule 30 of the rules applying to coal-mines made under Section 20 of the Indian Mines Act, 1901, for the conduct of examinations for managers' certificates of competency.

(1) No member of the Board of Examiners shall act as a local examiner, except in emergent cases.

(2) When possible, one or more members of the Board of Examiners shall attend every examination on at least one of the days.

APPENDIX III—*contd.*

Table No. 6—*concld.*

(3) So far as is practicable, the local examiners shall be :—

(*a*) An Inspector of Mines, who shall be Secretary to the local examiners.

(*b*) Two Mining Engineers or Colliery Managers who must be the holders of first class certificates. Provided that a Mining Professor may be appointed instead of one of the Mining Engineers or Managers.

(4) The remuneration of each local examiner shall be ₹150 for each examination, and a capitation fee of ₹2 for each first class candidate and ₹1 for each second class candidate examined, and travelling expenses and halting allowances on the first class scale under Civil Service Regulations; but an Inspector of Mines, acting as a local examiner, shall not be entitled to any fee or remuneration whatsoever, beyond the travelling expenses and halting allowances due to him in his official capacity.

(5) The subjects for examination shall be :—

(*a*) *Arithmetic and handwriting.*

(*b*) *Practical and theoretical coal mining,* including :—surface and underground arrangements, sinking, timbering, ventilation, gases met with in coal mines, a knowledge of plans, surveying and levelling, and of the various instruments used in mining. Questions may also be asked upon geology, sanitation, hydraulics, explosives, safety lamps and similar subjects. The candidates may also be required to show how to arrange the ventilation and haulage of a mine on a given plan.

(*c*) *Practical mechanics* including steam, steam-engines, steam-boilers, pumps and strength of materials; and questions may be asked upon electricity and compressed air as applied to coal mining.

(*d*) *The Indian Mines Act, 1901,* and rules made under the Act.

(6) The examinations shall be both written and oral, and the subjects and conditions shall be the same for candidates for both classes of certificates; but the examination questions shall be made suitable for each class of certificate.

(7) The following shall be the maximum number of marks given for each subject :—

Subjects.	First Class.			Second Class.		
	Papers.	*Viva Voce.*	Total.	Papers.	*Viva Voce.*	Total.
(*a*) Arithmetic and Handwriting	50	...	50	50	...	50
(*b*) Mining	160	60	220	140	80	220
(*c*) Mechanics	110	40	150	100	50	150
(*d*) Indian Mines Act . .	60	20	80	50	30	80
Totals .	380	120	500	340	160	500

(8) No candidate who fails to obtain 66 per cent. of the total number of marks or 33 per cent. in either of the subjects of mining or mechanics shall be passed by the examiners, and if a candidate fails to obtain 33 per cent. of the marks given for either of the subjects of Arithmetic and Handwriting or the Indian Mines Act, any marks he may have obtained in such subjects shall not be included when the total is determined.

(9) Before each examination each candidate shall declare whether he presents himself for a first or second class certificate. No candidate for a second class certificate shall be eligible at that examination for a first class certificate, but a candidate for a first class certificate, who does not reach the necessary standard, may, nevertheless, at the discretion of the local examiners, be recommended to the Board of Examiners for a second class certificate, if in their opinion he has done sufficiently well to deserve it.

(10) The Secretary to the local examiners shall report, by registered post, the result of the examinations giving the number of marks obtained by each candidate in each subject, to the President of the Board of Examiners within one month of the close of the examination.

(11) The questions which the local examiners intend to put in the examination papers shall be submitted in draft to the Board of Examiners, for approval, at least six weeks before the date of the examination.

(12) At least one examination shall be held annually in the Bengal coalfields, and in other parts of India examinations will be held whenever, in the opinion of the Board of Examiners, the number of candidates in a coal mining centre justifies the holding of an examination.

APPENDIX III—*contd.*

Table No. 7.

List of holders of certificates as Managers of Coal Mines in British India.

(*a*) Certificates granted to holders of English certificates of competency.

FIRST CLASS.

NAME.	No. of Indian certificate.	Date of Indian certificate.	No. of English certificate.	Date of English certificate.
Pickering, William Henry	1	7th August 1906	1536	28th June 1881.
Turnbull, John James	2	Ditto	1819	21st September 1883.
Miller, William	3	Ditto	1886	18th June 1884.
Grundy, James	4	Ditto	1044	24th December 1877.
Adams, George Francis	5	Ditto	431	1st April 1892.
Simpson, Robert Rowell	6	Ditto	1485	6th March 1899.
Ward, Thomas Henry	7	Ditto	789	15th February 1876.
Bathgate, Richard Ged Muir	8	Ditto	1847	19th June 1901.
Thomson, Alfred Scott	9	Ditto	705	30th December 1893.
Chambers, Horace James	10	Ditto	1282	30th November 1897.
Gilmour, John	11	Ditto	2218	16th June 1903.
Gough, George Henry	12	Ditto	2357	14th February 1904.
Lathbury, Graham Campbell	13	Ditto	1555	22nd June 1899.
Adamson, Thomas	14	Ditto	1648	23rd February 1900.
Ditmas, Francis Ivan Leslie	15	Ditto	1858	19th June 1901.
Leach, George Catterall	16	Ditto	1903	19th July 1901.
Browne, Robert J.	17	Ditto	2122	11th June 1886.
Hope, Edmund Louis	18	Ditto	252	3rd July 1890.
Yeoman, Thomas Prerrick	19	Ditto	248	19th June 1890.
Herriotts, Joseph George	20	Ditto	2572	22nd February 1905.
Wood, Walter J.	21	Ditto	369	22nd July 1891.
Wordsworth, Robert	22	Ditto	2372	30th December 1887.
Owen, Frank	23	Ditto	1171	20th January 1897.
Barrowman, Robert C.	24	Ditto	1378	11th June 1898.
Chrystle, Thomas	25	Ditto	2015	1st July 1885.
Crabb, George Harry	26	Ditto	2312	20th October 1887.
Scott, G. F.	27	Ditto	1473	8th January 1881.
Gregory, Aubrey	28	Ditto	2328	17th November 1887.
Miller, Frederick	29	Ditto	2552	10th January 1905.
McCale, Charles Henry	30	Ditto	1501	25th May 1899.
White, John	31	Ditto	1551	16th June 1899.
Simpson, Francis L. G.	32	Ditto	1516 / 3082	12th March 1881.
Laurie, David	33	Ditto	2060	14th June 1902.
Fleming, David	34	Ditto	2422	8th June 1904.
Bell, Reginald	35	Ditto	2007	29th December 1886.
Kean, John Shannon	36	Ditto	1529	16th June 1899.

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*a*) Certificates granted to holders of English certificates of competency—*contd.*

FIRST CLASS.

NAME.	No. of Indian certificate.	Date of Indian certificate.	No. of English certificate.	Date of English certificate.
Jacobs, Lionel Asher	37	7th August 1906	2359	17th February 1904.
Brodhurst, Bernard Lucas	38	Ditto	1924	19th November 1901.
Paton, A. H. M.	39	Ditto	1538	16th June 1899.
Marley, Frederic Thomas	40	Ditto	2168	4th March 1903.
George, Glen	41	29th August 1906	2375	30th May 1904.
Harris, George Elliott	42	Ditto	255	11th July 1890.
Davies, Rhys	43	Ditto	2370	30th May 1904.
Jackson, William	44	Ditto	1615	30th December 1899.
Hance, Henry Malkin	45	Ditto	2547	10th January 1905.
Dixon, George	46	Ditto	1978	27th February 1902.
Heslop, Septimus	47	Ditto	1689	16th September 1882.
Mort, Arthur	48	11th November 1906	1403	23rd June 1898.
Crole, Angus Bremner	49	Ditto	2519	29th December 1904.
Thomson, David	50	Ditto	1888	19th June 1901.
Edwards, Owain Tudor	51	Ditto	1822	18th June 1901.
Phillips, Walter Hugh	52	Ditto	2512	18th November 1904.
Lea, Charles	53	Ditto	1755	11th September 1900.
Russell, Andrew	54	Ditto	2190	7th January 1887.
Sheridan, Alfred	55	Ditto	1828	21st September 1883.
Campbell, Robert Fisher	56	Ditto	2045	14th June 1902.
Miller, George	57	Ditto	1720	19th June 1900.
Griffiths, William Thomas	58	Ditto	1679	7th June 1900.
Parsons, William	59	Ditto	1474	20th January 1899.
Walsh, Thomas	60	29th November 1906	1400	11th June 1898.
Burt, Walter	61	Ditto	1380	Ditto.
Rees, Walter John	62	28th December 1906	340	26th March 1891.

SECOND CLASS.

Rylance, Joseph	1	29th August 1906	3791	22nd June 1899.
Howarth, Willis	2	11th November 1906	4988	22nd July 1903.
Golding, David	3	29th November 1906	4806	6th May 1903.
Price, George	4	28th December 1906	3613	20th January 1899.
Rowley, John Thomas	5	Ditto	4456	3rd January 1902.
Davies, Richard James	6	Ditto	4172	10th January 1901.
Stelfox, Albert	7	Ditto	3608	10th January 1899.

APPENDIX III—*contd*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service.

FIRST CLASS.

NAME.	Number of certificate.	Date of certificate.	REMARKS.
Darby, George Mathew	1	7th August 1906.	
Mitchell, Robert	2	Ditto.	
Belletti, Hubert Joseph Louis	3	Ditto.	
Patterson, Ernest Malcolm	4	Ditto.	
Martin, Henry Thomas Campbell	5	Ditto.	
Agabeg, Alfred Arakiel	6	Ditto.	
Thaddeus, Aratoon Misrope	7	Ditto.	
Mitchell, W. O.	8	Ditto.	
Bone, David	9	Ditto.	
Fleischer, Theodore Kasimir	10	Ditto.	
Ashcroft, Peter Henry	11	Ditto.	
Forster, William	12	Ditto.	
Maughan, John Grey	13	Ditto.	
Millar, John Arthur	14	Ditto.	
Mackintosh, James	15	Ditto.	
Wright, Abraham	16	Ditto.	
Veasey Harley Cyril	17	Ditto.	
Heilgers, Frederick William	18	Ditto.	
Nierses, Joseph Walter	19	Ditto.	
Onraët, Emile D'Abadie	20	Ditto.	
Bennertz, Emile Saupin	21	Ditto.	
Hannaford, William Vere	22	Ditto.	
Bull, Henry Mathews	23	Ditto.	
Dutta, Hem Chandra	24	Ditto.	
Gibb, James Ballantine	25	Ditto.	
Augier, Robert Francis	26	Ditto.	
Myers, E.	27	27th August 1906.	
Daly, Henry Mathew	28	7th August 1906.	
Chatterjee, Sat Kari	29	Ditto.	
Cork, Frederick Lawrence	30	Ditto.	
Raha, Sasi Bhusan	31	Ditto.	
Agabeg, Frank Joseph	32	Ditto.	
Chowdhuri, Lalit Mohan	33	Ditto.	
Keelan, Percy Stanley	34	Ditto.	
Fleury, Henry George	35	Ditto.	
Creet, Aratoon Theodore	36	Ditto.	
Keelan, Arthur Thomas	37	Ditto.	

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service—*contd.*

FIRST CLASS—*contd.*

NAME.	Number of certificate.	Date of certificate.	REMARKS.
Boga, Dhanjisha Rustomji	38	7th August 1906.	
Hockly, William Ashton	39	Ditto.	
Mitter, Joy Krishna	40	Ditto.	
Banerjee, Anurup Kristo	41	Ditto.	
Kelly, Lionel St. John	42	Ditto.	
Creet, George H.	43	Ditto.	
John, George	44	Ditto.	
Whyte, Donald Allan	45	Ditto.	
Augier, Cecil Charles	46	Ditto.	
Foster, Frederick Boswall	47	Ditto.	
Sam, Alexander Andrew Vardon	48	Ditto.	
Hullock, Wilfred	49	Ditto.	
Miller, Nathan	50	Ditto.	
Adamson, Mathew James	51	Ditto.	
Loughran, Herbert W.	52	Ditto.	
Reaks, Gerald O.	53	Ditto.	
Jackson, George	54	Ditto.	
Mukherjee, Hari Pado	55	Ditto.	
Mittra, Poolin Behary	56	Ditto.	
Thomson, Thomas	57	Ditto.	
Mukerjee, Narendra Nath	58	27th August 1906.	
Banerjee, Bankim Chandra	59	Ditto.	
Agabeg, Edgar Clarence	60	Ditto.	
Hailes, Alfred George	61	Ditto.	
Nairne, Charles	62	Ditto	
Laik, Kali Das	63	Ditto.	
Sarkar, Surendra Nath	64	Ditto.	
Bhimji, Purshotam	65	Ditto.	
Augier, William	66	Ditto.	
Barker, Theodore Colvin	67	Ditto.	
Wills, George St. John Darby	68	Ditto.	
Lall, Parameshwer	69	Ditto.	
Dutt, Behary Lall	70	Ditto.	
De Vine, James Nathaniel Arthur	71	Ditto.	
Seddor, Samuel Henry	72	29th August 1906.	
Scott, Percival	73	27th August 1906.	
Whyte, Ernest Alexander	74	12th November 1906.	

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service—*contd.*

FIRST CLASS—*concld.*

NAME.	Number of certificate.	Date of certificate.	REMARKS.
Sam, Eleazer Gregory Seth	75	11th November 1906.	
Manishanker, Govardhan Das	76	Ditto.	
Bhattacharji, Gopal Chandra	77	Ditto.	
Bennertz, Adolf George	78	Ditto.	
Heysham, William Clayton	79	Ditto.	
Miller, Joseph	80	13th November 1906.	
Lowe, Amos	81	Ditto.	
Elliot, Ralph	82	Ditto.	
Bull, George	83	Ditto.	
Rushton, Thomas	84	Ditto.	
Arratoon, Alfred Ernest	85	12th November 1906.	
Higby, Arthur Harry	86	Ditto.	
Middleton, George David	87	Ditto.	
Roy, Basanto Kumar	88	20th November 1906.	
Chander, Indra Narayan	89	12th November 1906.	
Lardner, Robert Charles	90	Ditto.	
Mukherjee, Jnanendra Nath	91	20th November 1906.	
Fox, Hope Rowan	92	29th November 1906.	
Dutta, Sita Nath	93	Ditto.	
Bosu, Tin Cary	94	Ditto.	
Chowdry, Aubhoya Kumer Rai	95	8th December 1906.	
Creet, Simon Theodore	96	Ditto.	
Roy, Manmatha Nath	97	Ditto.	
Clements, William Charles	98	28th December 1906.	
Barnett, Ebenezer Lawrence	99	Ditto.	
Phillips, Carr Lazarus	100	Ditto.	
SECOND CLASS.			
Hamir, Devshi	1	7th August 1906.	
Parerjee, Kailash Chandra	3	Ditto.	
Kipling, James	4	Ditto.	
Carratt, F.	5	Ditto.	
Marwari, Shew Karan	6	Ditto.	
Bhamji, Kekobad Framji	7	Ditto.	
Ghosh, Mathura Nath	8	Ditto.	
Armour, Clarence Francis Herbert	9	Ditto.	
Shearer, John George	10	Ditto.	
Munroe, Martin	11	Ditto.	

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service—*contd.*

SECOND CLASS—*contd.*

NAME.	Number of certificate.	Date of certificate.	REMARKS.
Chatterjee, Gopinath	12	27th August 1906.	
Cork, Frederick Lawrence (Junior)	13	Ditto.	
Brown, Jacob	14	Ditto.	
Pennefather, Alfred Fredrick	15	Ditto.	
Bennett, William Henry	16	Ditto.	
Thornton, John William	17	Ditto.	
Ghatack, Kamakhya Nath	18	29th August 1906.	
Shamji, Daya Sankar	19	Ditto.	
Samonta, Nagendra Nath	20	Ditto.	
Mookerjee, Dookha Haran	21	18th November 1906.	
Chatterjee, Pran Kissen	22	Ditto.	
Delmas, James Attey	23	Ditto.	
Acharjia, Boidya Nath	24	Ditto.	
Sircar, Keshub Chandra	25	Ditto.	
Renaux, Harry Walter	26	Ditto.	
Mukherjee, Umaprasad	27	Ditto.	
Pal, Chakar Chandra	28	Ditto.	
Dutt, Manmatha Nath	29	Ditto.	
Vankani, Deoram Purshotam	30	Ditto.	
Mittra, Luckhon Chunder	31	Ditto.	
Kirpa, Ram	32	Ditto.	
Pattra, Sosi Bhushan	33	Ditto.	
Mukherjie, Raj Bulluv	34	21st November 1906.	
Ghosh, Bepin Behary	35	Ditto.	
Chakravarty, Trivonga	36	Ditto.	
Bampton, William Francis	37	Ditto.	
Spencer, William Henry	38	Ditto.	
Carter, John	39	Ditto.	
Price, George	40	Ditto.	Certificate withdrawn and another granted in lieu of English certificate.
Williams, Walter Anderson	41	Ditto.	
Wilkinson, Hugh Llewellyn	42	Ditto.	
Bullock, James	43	Ditto.	
Ghosh, Suchand	44	Ditto.	
Amis, W. L.	45	Ditto.	
Ghose, Adhor Chandra	46	Ditto.	
Lethorn, Oscar Stanley	47	Ditto.	
Roy, Devendra Narain	48	Ditto.	

APPENDIX III—*contd.*

Table No. 7—*concld.*

List of holders of certificates as Managers of Coal Mines in British India—*concld.*

(*b*) Certificates of service—*concld.*

SECOND CLASS—*concld.*

NAME.	Number of certificate.	Date of certificate.	REMARKS.
Gangooly, Poorna Chandra	49	21st November 1906.	
Chatterjee, Jogendra Nath	50	Ditto.	
Bagchi, Purna Chandra	51	Ditto.	
Ghosh, Sasi Bhusan	52	20th November 1906.	
Lala, Jagadamba Prasad	53	Ditto.	
Roy, Umesh Chandra	54	18th November 1906.	
Marwari, Rambelas	55	21st November 1906.	
Cooper, James William	56	20th November 1906.	
Sam, Gregory Seth	57	Ditto.	
Ashcroft, Frederick Joshua	58	Ditto.	
Goswamee, Haripada	59	Ditto.	
Mitter, Keshob Chandra	60	Ditto.	
Topham, William Henry	61	Ditto.	
Banerjee, Kooloda Prosad	62	Ditto.	
Myers, Harold Ernest	63	29th November 1906.	
Martin, John Campbell	64	Ditto.	
Chatterjee, Kali Das	65	Ditto.	
Sircar, Suresh Chandra	66	Ditto.	
Mackertick, Carapiet	67	Ditto.	
Nandi, Bhairab Charan	68	Ditto.	
Barnard, William	69	Ditto.	
Dutt, Bosonto Kumar	70	Ditto.	
de Monte, Louis Enrico	71	7th December 1906.	
Burmon, Purno Chunder	72	Ditto.	
Chowdhury, Gouri Sankar Roy	73	Ditto.	
Mukerjee, Horendra Chandra	74	Ditto.	
Kheta, Valji	75	Ditto.	
Mookerjee, Rakhal Das	76	Ditto	
Mŏndol, Mukunda Lall	77	8th December 1906.	
Sircar, Bepin Behary	78	Ditto.	
Whiffen, Cecil Herbert	79	Ditto.	
Mazumdar, Pran Krishna	80	Ditto.	
Irani, Kaikhosru B.	81	Ditto.	
Mukherjee, Gopeshwar	82	Ditto.	
Martin, Thomas	83	28th December 1906.	
Lal, Sarbananda	84	Ditto.	

APPENDIX III—*contd.*

Table No. 8.

ADDITIONAL RULES UNDER SECTION 141 OF THE NATAL MINES ACT, 1899.

Labour, Dwellings and Sanitation.

86. No boy under the age of twelve years, and no female person of any age, shall be employed underground.

87. The wages of any person employed in or about a mine shall not be paid to him at or within any hotel, bar, canteen, or place where spirituous or fermented liquor is sold.

88. At every mine a room must be provided proportionate in size to the number of persons employed in wet workings or shafts, in which room the workmen may change and dry their clothing. Engine and boiler houses shall not be used for this purpose. The Inspector of Mines, appointed for carrying out Regulations under Section 143 of the Act, has power to exempt in writing those mines where the workmen's houses are so close to the shafts, or the workings so dry as to render the erection of these buildings unnecessary.

89. Proper dwellings shall be provided and maintained by the mine owner for all Native and Indian persons employed on the mining property.

Such dwellings shall be situated in as healthy a position as practicable, and shall be kept dry, clean, and free from draughts.

90. All dwellings to be erected for coloured employés shall be constructed of burnt brick or stone, rendered in good mortar, or of iron lined with green or burnt brick set in mortar and plastered or tarred, or of green brick set in mortar cemented outside and plastered or tarred inside. The floors shall be of concrete or asphalte, and shall be not less than six inches above the outer ground.

91. Every dwelling shall be provided with a boarded ceiling beneath the roof, whether such roof be constructed of corrugated iron or other suitable material.

92. Every roof shall be so constructed as to prevent the entrance of rain, and shall be at all times maintained in such condition.

93. Indians shall be accommodated in rooms of not more than 180 feet floor space, but the floor space of any room shall not be less than 100 superficial feet.

94. The height of each building from floor to ceiling shall not be less than 10 feet, or an average of 10 feet, and not less in any part than 9 feet.

95. Every such building shall be fitted with glass windows or wooden shutters capable of being opened in half the area, and one window of an area of 2 feet by 2 feet at least for each 180 feet of floor space.

96. For each 180 feet of floor space shall be provided a permanent ventilator of perforated brick or other material on each side at the height of 9 feet and of the area of two bricks, or continuous ventilation of buildings from end to end above ceiling.

97. Each room used as a dwelling shall be provided with a proper chimney flue.

98. In connection with every compound or group of dwellings shall be provided a proper ablution chamber, separate for Native and Indian employés and men and women respectively, which shall have a flooring of concrete cement, asphalte, or flags rendered in cement, graded to carry off water.

99. Such ablution chamber may be constructed of corrugated iron, and shall be enclosed on all sides and roofed.

100. All plans of new buildings shall be submitted through the Inspector of Mines before commencement, and, if approved, he shall signify in writing his approval; such approval shall not be given in the case of buildings for Indian Immigrants except the consent of the Protector for Indian Immigrants shall have first been obtained.

N.B.—Back-to-back dwellings are contrary to Public Health Regulations.

101. In connection with every mine adequate hospital accommodation shall be provided for all cases of accidents, and for any sick who may be temporarily unfit for work, and wheresoever no Indian Circle Hospital exists within a distance of 15 miles such accommodation shall be provided for not less than eight per cent. of the coloured employés.

Water.

102. In connection with every compound or group of dwellings, an adequate supply of wholesome water shall be provided for drinking and general domestic purposes, and such supply shall be conveniently situated for the use of inmates.

103. If no spruit or stream of pure water run within 600 yards of the nearest part of any compound or group of dwellings, then necessary measures shall be taken for bringing water to a point at no greater distance than 600 yards.

104. When the water-supply is derived from any spruit, whether direct or laid on by pipes or otherwise, supervision shall be exercised to prevent the pollution of such water by any material whatever.

105. In any case where a stream of satisfactory water runs within the distance prescribed, a catchpit or small reservoir shall be constructed with an overflow pipe in such a manner that the employés can fill the necessary vessel without disturbing any sediment at the bottom.

APPENDIX III—*contd.*

Table No. 8.—*contd.*

106. Every compound or group of dwellings shall be sufficiently drained so that no stagnant water remains in the vicinity of dwellings.

107. It shall be the duty of the Manager to see that the mine under his control is at all times kept in a good sanitary condition, both above and below ground.

108. Suitable latrines shall be provided both above and below ground, and kept clean and free from offensive smells, for the use of all persons employed in or about a mine, and any person making use of any place not so provided shall be guilty of an offence against these Regulations.

109. Sufficient latrine accommodation shall be specially provided for every compound or group of dwellings used by Indians or Natives, a portion of which shall be screened off for women, and the whole screened off from public view.

110. The latrines referred to in the last rule shall be shallow trenches, which shall be filled up at intervals of not more than three days and fresh trenches dug, or they may be constructed with movable receptacles.

If trenches as aforesaid cannot be dug in any spot within the prescribed distance so that the surface water running over the place do not pass to any stream of water used for domestic purposes, then movable receptacles shall be provided which shall be emptied once in every period of twenty-four hours in such place that the water shall be in no danger of pollution.

111. Latrine trenches shall not be situated nearer than 100 yards to any dwelling nor further distant than 600 yards from the nearest, and shall at all times be so maintained that no offensive odour arise.

112. When Native or Indian employés are fed by the mine owner, the food and water supplied shall be of proper and wholesome character and in sufficient quantity.

113. In addition to the ordinary rations provided for different coloured employés, a ration of fresh vegetables, being either 1lb of potatoes, or 1lb of pumpkins, or ½lb of green vegetables, shall be supplied not less than twice in every week. In case of vegetables being unobtainable, ½ lb of meat shall be provided each week. Meat in the case of Indian Immigrants shall mean fresh mutton.

114. The hours of labour for indentured Indian men shall not exceed nine hours per diem. An interval of not less than one and a half hours shall be allowed for the mid-day meal.

115. The employment of Indian women shall only be on the surface, and the hours of labour shall not exceed eight hours per diem. The employment of Indians beyond the hours specified shall only be with their consent, and on receipt of not less than 2 pence per hour.

116. Proper medical attendance, medicines, and nursing shall be provided by the mine owner for sick Native and Indian employés without charge beyond the stoppage of the patient's pay during such time as he is incapacitated from work or proceeding to his home.

It shall be the duty of the Management to see that all Indians receive the medical attention and care they require, and especially during the first months after allotment. Any Indian Immigrant who has been laid aside from any sickness or accident shall when convalescent only perform work of such a character as the Indian Medical Officer shall certify, in writing, that he or she are capable of performing.

117. It shall be the duty of the Manager to consult with the Medical Officer of the mine in respect to the nature of the employment to which any Indian Immigrant shall be put to for three months after allotment, with the object of protecting such immigrant from being obliged to perform work which may be likely to overtax his strength.

118. In all cases it shall be the duty of the Management to see that Indians are suitably clothed and kept warm during the hours of labour.

119. No coloured employé shall be allowed to take into or use in his sleeping room any brasier containing lighted coal. This Regulation shall only come into force where chimney flues have been provided.

120. In the case of buildings already erected, which do not fully comply with the requirements of these Regulations, the use of which it is the desire to continue, application must be made to the Inspector of Mines for permission to continue the use of such buildings with or without alterations.

The Inspector may grant or refuse permission, or grant temporary or conditional permission, for the use of such buildings.

In the case of such buildings used or intended to be used by Indian Immigrants, the nspector shall submit the application to the Protector of Indian Immigrants, and shall not grant the permission until the Protector has signified his approval.

121. Any deviations from these Rules will only be allowed on the written consent of the Commissioner of Mines, and in the case of Indian Immigrants the consent of the Protector of Indian Immigrants must also be obtained.

122. The Commissioner of Mines shall have the power in special cases to allow modification as regards Rules Nos. 1, 2, 4, 5, and 8.

123. It shall be the duty of the Inspector of Mines, appointed for carrying out Regulations under Section 143 of the Act, to inspect all quarters occupied or used by employés, and the mine premises generally, and otherwise to enquire into the carrying out of Regulations 76 to 83.

124. The penalties provided by Section 142 of the Mines Act apply to contraventions of any of the foregoing rules.

Table No. 8—*contd.*

Amended Regulations under Section 141 of the Natal Mines Act, 1899.

Regulation 90. All dwellings to be erected for coloured employés shall be constructed of burnt brick or stone, rendered in good mortar, or of iron lined with green or burnt brick set in mortar and plastered or tarred, or of green brick set in mortar cemented outside and plastered or tarred inside. The floors shall be of concrete or asphalte or properly constructed of earth, and shall be not less than six inches above the outer ground, but it shall be competent for the Health Officer for the Colony, or the Inspector of Mines, to, at any time, call upon the Manager of a mine to replace any earthen floors by concrete or asphalte.

Regulation 91. Every dwelling shall be provided beneath the roof with a boarded ceiling, or with a ceiling of suitably fixed brattice cloth, whether the roof be constructed of corrugated iron or other suitable material.

Regulation 114. The hours of labour for indentured Indian men shall not exceed nine hours per diem. An interval of not less than one hour, reckoned from pit bank to pit bank, shall be allowed for the mid-day meal.

Regulation 122. The Commissioner of Mines shall have the power, in special cases, to allow modification as regards Regulations Nos. 90, 91, 93, 94, 96, 97, and 98.

Regulation 123. It shall be the duty of the Inspector of Mines, appointed for carrying out Regulations under Section 143 of the Act, to inspect all quarters occupied or used by employés, and the mine premises generally, and otherwise to enquire into the carrying out of Regulations 86 to 122.

Table No. 9.

JUDGMENT.

CROWN FOR CHIEF INSPECTOR OF MINES IN INDIA.

Vrs.

Gorain Brothers and others.

This is a case under the Indian Mines Act. The prosecution was instituted by the District Magistrate at the instance of Mr. W. H. Pickering, Chief Inspector of Mines in India. The complaint is dated the 15th November 1906. The reasons for the prosecution may be summarised as follows:—

On the 13th October 1906, while the work of removing coal was in progress in incline No. 1 of the Begunia coal mine, a considerable portion of the roof fell in burying and killing three women, and injuring three other individuals. Mr. Simpson, Inspector of Mines, was deputed to inspect the mine and hold an enquiry. He did so on the 20th and 21st October and succeeded in removing the three dead bodies. It was on the basis of Mr. Simpson's report which disclosed grave irregularities, and omissions, on the part of persons who were responsible for the working of the mine, that Mr. Pickering decided to put into operation the machinery of the Criminal Court. The Chief Inspector of Mines has therefore complied with the provisions of Section 23, Indian Mines Act, which enjoin that the institution of such cases shall be at the instance of the Chief Inspector or an Inspector of Mines.

Section 24, cognizance of any offence is prohibited unless complaint thereof is made within six months of the date on which the offence is alleged to have been committed. The learned pleader has argued that no approximate date of the omission or irregularity, which, brought about the accident can be ascertained, and that therefore the prosecution is bad. This contention in my judgment is illogical, it is based on a misapprehension of the facts. The evidence indicates, and proves, that work was proceeding within the mine in the month of October last, and any irregularity or omission on any day of that month which led to an occurrence amounting to an offence under the Act fixes the date required by section 24. To contend otherwise is to go beyond the plain meaning of the law and the deductions of common sense. The Court has not to seek in the dim past for a date. The omission or irregularity, if any, which resulted in the loss of three lives occurred in the month of October last. The period required by Section 24 must run from that month and Mr. Pickering's complaint is dated the 15th November following. Complaint has therefore been made within six months.

It has also been urged on behalf of the defence with considerable vehemence that the mine in question is not a mine within the meaning of the Act. Mr. Simpson's evidence disproves this contention and Mr. Simpson is a B.Sc. and a mining expert of wide experience both in England and in India. In order, however, to make absolutely certain I inspected the Begunia coal mine. The entrance to the mine seemed to me more than 20 feet below the surface of the ground, the mine itself is a labyrinth of galleries underground and the scene of the accident is in my opinion quite 300 feet (probably more) from the entrance of the mine along these tunnels and underground channels. If Begunia be not a mine I am unable to comprehend the meaning of the term.

APPENDIX III—*contd*

Table No. 9—*contd.*

I will now discuss very briefly the responsibility of the individuals accused and whether they have committed any offences. The Mines Act was passed in 1901. Under Section 33 (temporary provision) no Court can take cognizance of any offence under Section 22 (1), clause (*e*), or sub-section (3) which is alleged to have been committed by any person within one year from the commencement of this Act. The period laid down has elapsed and the subsequent framing of rules under the Act cannot extend that period. The charges under the rules run as follows :—

Roof not made secure. Reports of examinations of workings not signed by the person who made the examination. Discontinued workings not fenced. Plan not kept at the mine. Inclines not fenced and so on. Now the responsibility of owners, agents, and managers with respect to all operations carried on in mines is most precisely laid down in Section 14. This responsibility cannot be evaded unless there is clear proof that all reasonable precautions were taken to carry out the provisions of the Act and the rules framed thereunder. In fact the law as it stands emphatically requires clear proof of an Act of God, or the King's enemies, so to speak, before admitting the justice of the plea of exemption.

I may note in passing that in the original order of the District Magistrate there was a clerical error. This was subsequently amended on the 6th December 1906, and it was ordered that the prosecution should proceed under Section 22 (1) (*e*) of the Mines Act. The defence prayed for a regular trial they also desired that the charges against them might be specifically and categorically stated, also that copies of papers upon which the prosecution was based might be filed in order to enable them to see their way clearly. The public prosecutor accordingly filed all the papers relative to the case which had led the Chief Inspector of Mines to institute criminal proceedings. The charges under the rules and the Act were noted on the order sheet and explained to the accused. The learned pleader has in this connection urged eloquently, that the prosecution must confine itself to the order set forth by the District Magistrate. I am unable to concur in this view of the law. Mr. Pickering's complaint contains all the charges under the rules and Mr. Pickering is the individual empowered by the Act to institute criminal proceedings, and there is nothing to show that the District Magistrate is vested with any discretionary authority of curtailment or enhancement of charges in this particular connection, moreover Sections $\frac{227}{237}$, C. P. C., are quite clear. Other charges may be considered during the course of a trial.

Most of the papers are unnecessary to the elucidation of this case. They have afforded the particulars which the accused required and they have served their purpose. I propose to confine my attention to the evidence. The most important testimony is rendered by Mr. Simpson, B.Sc., Inspector of Mines. Mr. Simpson's evidence by virtue of his position, his qualifications, and his expert knowledge, is entitled to great weight. It indicates briefly that pillars of coal were being removed with practically no precautions being taken to safeguard the lives of the workmen. He proves further that there was not an efficient system of timbering at the site of the fall, and that this was essential having regard to the treacherous nature of the rock above. He proves further that many places were dangerous and that they had not been fenced as enjoined by the rules. It is proved by the witnesses too that Gorain Brothers are the owners of the mine. That Rampada Babu is the manager, that Rajendra Babu works in the office and inspects the mine. The evidence indicates also that Rajendra and Rampada Babus work under the supervision of the proprietors.

On behalf of the defence it is alleged that a partition case has taken place with respect to the property of Gorain Brothers. It is however admitted that the mine was not partitioned and that the Receiver has not been in possession since 1312 B. S. Gorain Brothers are now in possession and were in possession on the date of the fatal accident. The partition matter in my judgment has no bearing on this case whatsoever. The rules contravened are dated the 10th March 1904, namely, rules III, IV, XXVI, VII, IX, X, XIX, XXIII. A breach of these rules is punishable under Sections 22 (I) (*e*) and 22 (3) (*d*) and (*e*). Clause (*e*) relates to a breach of the rules which has resulted in the loss of life or serious bodily injury; clause (*d*) fixes the responsibility of the owner, agent, or manager, who fails to produce any prescribed plan, and clause (*e*) relates to the contravention of any provision of the Act or any rule or order for the breach of which no penalty is otherwise provided. Rule 9 says that a plan of the mine is to be kept. Rule 10 says it is to be produced for inspection at the office of the mine. It is proved by Mr. Simpson that the plan was not produced for inspection. The defence alleges the Surveyor during the Pujahs took away the map and has not since returned it. I may note that this plan was not forthcoming during the local enquiry held by the Court, and the presumption that there is no such map at all considering all the circumstances appears to be a violent one.

Rule (3) asserts that roofs and sides of all travelling roads and working places shall be made and kept secure. "Whoever" contravenes this provision is liable under Section 22 (1), clause (*e*). Mr. Simpson's evidence indicates that the accident was due primarily to a lack of efficient timbering. It appears to me that the rule has been contravened and that "whoever" read with Section 14 includes manager, owner and agent. I do not propose to consider all the other rules contravened such as the keeping of ambulances, etc., and as a matter of fact the breach of these rules had not been pressed by the prosecution.

APPENDIX III—*concld.*

Table No. 9—*contd.*

In all human probability no loss of life would have taken place, had the workings of the mine been properly supervised, and had the owners and other parties concerned proceeded with proper caution, maintaining at the same time an efficient system of timbering. This is the gist of Mr. Simpson's testimony and with that testimony, having inspected the underground workings, and the actual site of occurrence, I am disposed to agree. Rule 7 lays down that every entrance to any place, which is not in actual use, shall be properly fenced *across the whole width of the entrance* so as to prevent persons inadvertently entering the same. Mr. Simpson shows that this rule was honoured in the breach. Mr. Simpson's evidence is corroborated by the local inspection. Much has been made of a brick wall at the site of the fall. This wall never reached the roof and it was never intended to support the roof, moreover there was a breach in its centre permitting egress and ingress. It may have been raised to prevent the passage of water, but there can be no doubt at all that it was never raised for the purpose of supporting the treacherous roof. At its highest point it is about 7 feet below the roof. I may note here that the treacherous nature of the roof, at this point, was indicated by another fall. This fall must have taken place after Mr. Simpson's inspection, in as much as, we were separated from the actual site of the accident by a solid block of rock and debris some 10 feet in length by about 8 or 9 feet in depth and 8 or 10 feet in width.

It was urged that no prosecution could stand as the Act was incomplete. The last set of rules was passed in April 1906 and further sets were no doubt under consideration. This argument does not commend itself to my mind. The Court is concerned with the rules promulgated in 1904. Those rules are complete and a prosecution under the Act can legally be had after the lapse of one year from the commencement of the Act.

The subsequent set of rules relates to the technical qualifications of managers, etc. The learned pleader has urged that it is for the Government to point out such managers—it is for the Government to create a staff of men with the requisite technical qualifications, and to speak subsequently, of breaches of rules, and the responsibility of owners. This view is fallacious—the former rules are complete in themselves, they have been duly promulgated and the Court has to consider breaches of those rules and not breaches of rules relating to entirely different matters. This prosecution is not brought because a properly qualified manager has not been employed. It is brought because certain simple precautions have been neglected—precautions not only enjoined by the rules but by the dictates of common sense.

The prosecution against the manager and his assistant is not pressed. Gorain Brothers reside within a mile or thereabouts of the mine. The manager and his assistant work under them; the evidence indicates this fact. It seems to me a fair presumption under the circumstances to hold that the owners themselves are primarily responsible for the breaches of rules which led to the loss of life in October last. The manager and his assistant would naturally work in accordance with the directions of the owners. The efficiency of a scheme to safeguard the lives of miners would be in proportion to the funds forthcoming. Economy is scrupulously studied in the workings. Danger is ignored. In these circumstances accidents are inevitable. When owners study profits and not the lives of their workmen their moral responsibility is far greater than that of a manager, and his assistant, men who are at the beck and call of the owners and who necessarily work in accordance with directions and funds received. There is one other point, the defence endeavours to show that they had a contractor who worked the mine. The evidence is untrustworthy and even the existence of such a contractor would not exempt the owners from responsibility under Section 14 Mines Act. I hold that the accused are guilty under Section 22 (1), clause (*e*), and Section 22 (3), clauses (*d*) and (*e*.) Under these sections I fine Rampada and Rajendra ₹25 each; in default of payment they will undergo simple imprisonment for a week. Under clause (*e*), Section 22 (1), I fine Nanda Gorain, Hera Lal Gorain, Biswanath Gorain and Khudi Gorain, the owners, each ₹400, and to suffer imprisonment until the rising of the Court, and in default of payment to undergo two weeks' simple imprisonment each. Under 22 (3), clauses (*d*) and (*e*), I fine Nanda Gorain, Hera Lal Gorain, Biswanath Gorain and Khudi Gorain ₹100 each, and in default of payment to undergo simple imprisonment for a period of two weeks. I would note that in my judgment many parts of the Begunia mine as they stand at present are a deathtrap. It would be utterly unsafe to work them except under skilled supervision, and that supervision would have to be *constant*.

I direct that out of the fine, if realized, a sum of ₹400 be made over to the Chief Inspector of Mines for payment to the relations of the deceased and to persons injured. These persons being also complainants, in such proportions as the Chief Inspector of Mines may deem to be expedient as compensation for injuries sustained under Section 545, C. P. C.

(Sd.) R. BAINBRIDGE,

Magistrate, 1st Class.

BURDWAN,

18th February 1907.

APPENDIX III—*contd.*

Table No. 10.

DRAFT RULES FOR THE SANITATION OF THE JHARIA COAL FIELD.

1. Whereas the Governor-General in Council is satisfied that the area known as the Jharia Coal Field in the district of Manbhum is threatened with an outbreak of epidemic disease and that the provisions of the law at present in force are insufficient to prevent such outbreak, the following temporary regulations are prescribed under Section 2 (*1*) of the Epidemic Diseases Act III of 1897.

2. These regulations apply to the Jharia Coal Field as demarcated in the map* appended to this Resolution and shall be in force for a period of two years, unless previously revoked or modified.

3. The rules shall be administered by two Committees, whose jurisdiction shall extend over the areas north-west and south-east, respectively, of the stream between Kurkend and Loyabad which forms the eastern branch of the Khahi. Each Committee shall consist of 12 members nominated by the Local Government, and shall include the Sub-Divisional Officer of Gobindpur (or Dhanbaid), the Inspector of Mines and Medical Officer, of the remaining nine members, not less than six shall be persons actually residing and managing collieries within the area over which the Committee has jurisdiction.

4. When any place within the Committee's jurisdiction is reported by the Medical Officer to be in such an insanitary condition as to constitute a serious danger to the public health, the Committee may order the Proprietor of such place by a notice in writing to take such action as it may direct within a time to be specified in such notice.

5. When any tank, well or other source of water-supply is reported by the Medical Officer to be so unwholesome that its use for drinking or culinary purposes constitutes a danger to the public health, the Committee may by public notice prohibit the use of such water-supply for such purposes, and, should such prohibition be found inffectual to prevent its use for such purposes, may by a written notice direct the owner of such tank, well or other source of water-supply to disinfect, flush, drain or fill it up within a time specified in such notice.

6. No person shall drink or use for culinary purposes water drawn from any source, the use of which has been prohibited for such purposes by a public notice under the preceding regulation.

7. Where on any colliery or in any village the water-supply is inadequate, either as regards quantity or quality, to provide for the reasonable requirements with a due regard to the public health of the residents of such colliery or village, the Committee may by a written notice direct the owner of such colliery or village to provide such further sources of water-supply as may appear to it necessary within a time to be specified in such notice.

8. The Committee shall have power to prohibit by public notice the use of any area for the purposes of nature and no person shall perform any office of nature within such prohibited area.

9. The Committee shall define by public notice the areas within its jurisdiction within which the burning and burying of corpses shall take place. Except within such areas no person shall burn, bury, throw away, or otherwise dispose of any corpse.

10. Within such areas no person shall bury any corpse except at a depth of at least 4 feet and so covered that its disinterment by any animal or by the action of the weather is impossible, nor burn any corpse except in such a manner that the whole of it is consumed.

11. If any person on whom a notice has been served, omits to carry out, within the time specified, the orders of the Committee, the Committee may itself carry out the work so ordered and may recover the cost, or such proportion of the cost as it may consider fair, from the defaulting proprietor.

12. The Committee may for the purposes of this act levy such taxation as may appear to it necessary from the owners of collieries within its jurisdiction, such taxation shall be calculated on the profits of such colliery during the year last closed, as ascertained by the Cess Collection Department of the Deputy Commissioner's Office.

13. All sums leviable under these regulations shall be recoverable as public demands under the Public Demands Recovery Act.

14. All orders of the Committee shall be subject to an appeal to the Deputy Commissioner, provided that where the Deputy Commissioner sets aside an order of the Committee it shall be open to the Committee to refer the matter for the orders of the Commissioner through the Deputy Commissioner, and the orders of the Commissioner shall be final, both as to the necessity of the work and as to the apportionment of the cost.

15. Where the Deputy Commissioner on appeal supports an order of the Committee, there shall be a further appeal to the Commissioner, whose orders shall be final, both as to the necessity of the work and as to the apportionment of the cost.

16. When an appeal has been filed, either the Commissioner or the Deputy Commissioner, may order the suspension of the proceedings which form the subject matter of the appeal, pending the result of such appeal. Failing such orders, the Committee may continue such proceedings in spite of the fact of an appeal having been lodged.

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* *The map is not issued with this publication.*

APPENDIX III—*contd.*

Table No. II.

List of Universities and Colleges in England and India approved by the Governor-General in Council for the purposes of Rules 32 and 33 of the Indian Mines Act, 1901.

Name of Institution and Degree or Diploma.	Date.
University of Birmingham in respect of its Degree of B.Sc. in Mining and Diploma in Mining.	11th June 1904.
University College of Bristol in respect of its Senior Diploma in Mining.	16th September 1904.
University of Cambridge in respect of its Diploma in Mining Engineering.	6th June 1905.
University of Durham in respect of its degree of B.Sc. in Mining	21st December 1903.
Durham College of Science in respect of its Diploma in Mining .	29th June 1904.
University of Glasgow in respect of its Degree and Diploma in Mining.	28th September 1904.
Glasgow and West of Scotland Technical College in respect of its Diploma in Mining.	28th June 1904.
University of Leeds in respect of its Degree of B.Sc. in Mining and Diploma in Mining.	21st November 1904.
University of London in respect of its B.Sc. Degree in Mining for Internal Students, subject to the Degree being endorsed by the University with a certificate of four months' practical experience in a mine.	9th June 1905.
Royal School of Mines in respect of its Associateship in Mining .	24th March 1904.
University of Oxford in respect of its Diploma B. (for Colliery Engineers) in Scientific Engineering and Mining Subjects.	11th February 1905.
University College of Sheffield in respect of its Diploma in Mining.	15th July 1904.
University College of South Wales and Monmouthshire in respect of its Diploma in Mining.	19th April 1904.
Wigan Mining and Technical College in respect of its Diploma in Mining.	26th August 1904.
Civil Engineering College, Sibpur, in respect of its Diploma in Mining.	22nd February 1907.

APPENDIX III—*contd.*

Table No. 12.

List of Inspection Circles.

No. 1 Circle.	No. 2 Circle.	No. 3 Circle.
(*a*) All mines in the districts of Palamau, Gaya, Monghyr, Singhbhum, Darjeeling, Ranchi and Sambalpur, and all mines other than coal mines in the district of Hazaribagh, and all mines in the district of Manbhum, which are situated west of a line drawn from Adra Junction at mile 175 of the Bengal Nagpur Railway to Gobindpur at mile 169 on the Grand Trunk Road and continued across the district in each direction.	(*a*) All mines in the districts of Burdwan and Bankura to the west of a line drawn from mile 131 on the East Indian Railway main line near Asansol to mile 141 on the Ondal loop near Gaurangdi, and continued across the districts in each direction; and all mines in the district of Manbhum east of a line drawn from Adra Junction at mile 175 on the Bengal Nagpur Railway to Gobindpur at mile 169 on the Grand Trunk Road, and continued in each direction the district, and all coal mines in the district of Hazaribagh.	(*a*) All mines in the districts of Burdwan and Bankura to the east of a line drawn from mile 131 on the East Indian Railway main line near Asansol to mile 141 on the Ondal loop near Gaurangdi, and continued across the districts in each direction, and all mines in the districts of the Sonthal Parganas and Birbhum.
(*b*) All mines in Assam.	(*b*) All mines in Baluchistan.	(*b*) All mines in the Presidency of Bombay.
(*c*) All mines in Burma.	(*c*) All mines in the United Provinces.	(*c*) All mines in the Central Provinces.
	(*d*) All mines in the Punjab.	(*e*) All mines in the Presidency of Madras.
	(*e*) All mines in Ajmer-Merwara.	

APPENDIX IV.

ADDITIONS TO THE ACT.

No. 2968—82.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY

GEOLOGY AND MINERALS.

NOTIFICATION.

Simla, the 21st April 1906.

In exercise of the powers conferred by section 20 of the Indian Mines Act, 1901 (VIII of 1901), the Governor General in Council is pleased to make the following rules for application to all coal mines in British India in continuation of Notification No. 864—68-20, dated the 10th March 1904:—

VIII.—Rules regarding certificates, the conditions on which they are granted, and the qualifications which the managers of the various classes of mines must possess.

Rule 27.—For the purposes of rules 28 to 54, every system of underground workings interconnected in such a manner that communication is practicable from any one part of the system to any other part by means of underground channels shall be deemed to constitute a mine. If access from one system of underground workings to another such system is not practicable without coming to the surface of the ground, each such system shall be deemed to constitute a separate mine.

Rule 28.—There shall be constituted a Board of Examiners for the purposes of these rules, which shall consist of the Chief Inspector of Mines for the time being, and of two other persons possessing technical qualifications fitting them to serve on the Board. One of these persons shall be the owner or manager of a mine, the other shall be a mining engineer. They shall be appointed by the Governor General in Council for a term of three years.

Provided that on the expiry of any term for which he has been appointed, any such person shall be eligible for re-appointment. Each such person shall receive such remuneration as the Governor General in Council may fix. The Chief Inspector of Mines shall be, *ex-officio*, President of the Board.

Rule 29.—Certificates under these rules shall be granted by the Board of Examiners, and their decision regarding the grant of such certificates shall be final. Certificates granted by the Board shall hold good throughout British India, and shall be of two kinds, namely, certificates of competency and certificates of service, and of two classes of each kind, namely, first and second class.

Rule 30.—Certificates of competency shall be granted to candidates after such examination as the Board of Examiners may from time to time prescribe. The examinations shall be held at such times, and at such centres, as may from time to time be fixed by the Board, and shall be conducted by local examiners, who shall be appointed by the Board. The local examiners as appointed shall be subject to the orders of the Board in respect of all matters relative to the conduct of the examinations, and they shall receive such remuneration as the Board with the sanction of the Governor General in Council may fix. The Board may from time to time make regulations as to the conduct of such examinations; and they shall, so far as this is practicable, take steps that the standard of knowledge which a candidate must attain before he obtains a certificate of competency of any particular class shall be uniform throughout British India. Every regulation made by the Board under this rule shall be published in the local official Gazette, and no such regulation shall take effect until six months from the date on which it was first so published.

APPENDIX IV—*contd.*

Rule 31.—Full information regarding the date and place of each examination shall be published, under the orders of the Board of Examiners, in each issue of the local official Gazette, and in such other publications as the Board may consider desirable, for a period of not less than three months prior to the date fixed therefor.

Rule 32.—No person shall be admitted as a candidate at any examination for a first class certificate of competency unless he has attained the age of 23 years, and has satisfied the Board of Examiners that he has had practical experience in a coal mine for a period of not less than five years:

Provided that this period may be reduced to three years, if the Board of Examiners think fit, in the case of a candidate who has received a diploma in scientific and mining training after a course of study of at least two years at an educational institution approved in this behalf by the Governor General in Council, or who has taken a degree in scientific and mining subjects at a University approved in this behalf by the Governor General in Council.

Rule 33.—No person shall be admitted as a candidate at any examination for a second class certificate of competency unless he has attained the age of 21 years, and has satisfied the Board of Examiners that he has had practical experience in a coal mine for a period of not less than three years:

Provided that this period may be reduced to one year, if the Board of Examiners think fit, in the case of a candidate who has received a diploma in scientific and mining training after a course of study of at least two years at an educational institution approved in this behalf by the Governor General in Council or who has taken a degree in scientific and mining subjects at a University approved in this behalf by the Governor General in Council.

Rule 34.—A fee of R15 shall be paid by every candidate attending an examination for a first class certificate of competency and a fee of R8 shall be paid by every candidate attending an examination for a second class certificate of competency.

These fees shall be paid, not less than one month prior to the date of the examination, to the Chief Inspector of Mines at his office.*

Rule 35.—The Board of Examiners may grant without examination to any person holding a first or second class certificate granted under any Act for the regulation of Mines for the time being in force in the United Kingdom, or in any British Colony, a certificate of a similar class under these rules. They may also grant to any person holding a certificate of proficiency in mining, if approved by them, a certificate under these rules, of the first or second class, if they are satisfied that the applicant possesses sufficient knowledge and experience to warrant them in doing so:

Provided that the applicant has in every such case adduced proof to the satisfaction of the Board of his identity and good character.

A fee of R5 shall be charged in respect of all applications for certificates to be issued under this rule. The fee shall be paid to the Chief Inspector of Mines, and the application for the grant of a certificate shall not be considered by the Board until the Chief Inspector of Mines certifies that the fee chargeable has been paid.

Rule 36.—A first class certificate of service may be granted by the Board of Examiners to any person who satisfies them that he has acted for at least five years prior to the date fixed in rule 48 as the manager of a coal mine in India, in which, during the time he has so acted as manager, more than 150 persons have on an average been employed below ground simultaneously, or the average output of which has exceeded 1,800 tons of coal a month:

Provided that the said period of five years may be reduced to three, at the discretion of the Board of Examiners in the case of any such certificate which may be applied for before the 21st day of April 1908.

Rule 37.—A second class certificate of service may be granted by the Board of Examiners to any person who satisfies them that he has acted for at least three years prior to the date fixed in rule 48 below, as the manager of a coal mine in India in which, during the time he has so acted as manager, more than 50 persons were on an average employed underground simultaneously or the average output of which exceeded 600 tons of coal a month.

Rule 38.—Notwithstanding anything in rules 36 or 37, a certificate of service of either class may be granted by the Board of Examiners at their sole discretion to any person who is, in their opinion, possessed of sufficient knowledge and experience to warrant them in granting such a certificate.

Rule 39.—All applications for certificates of service shall be addressed to the Chief Inspector of Mines and shall state the name, age, place of birth, and place of employment of the applicant. The length and character of the mining experience possessed by the applicant shall also be detailed, and this statement shall be supported by the production of such documents as the applicant may be in a position to furnish.

Rule 40.—A fee of R5 shall be paid in respect of each application for a certificate of service of either class. This fee shall be paid to the Chief Inspector of Mines at his office.*

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* NOTE.—The fees may be remitted by Money Order or paid in any other manner.

APPENDIX IV—*contd.*

Rule 41.—Permits authorising particular persons to hold charge as managers of mines of the class described in rule 47 may be granted by the Chief Inspector of Mines, at his sole discretion. Such permits shall be signed by the Chief Inspector of Mines, and shall remain in force for such period, not exceeding one year, as he may specify therein. A permit may be cancelled at any time by the Chief Inspector of Mines without assigning any reason for his action, and such order shall be final. The Chief Inspector of Mines may renew any permit for a further period not exceeding one year after the expiry of the period for which the permit was originally granted.

Rule 42.—A register, showing the names and addresses of all holders of certificates or permits issued under these rules, shall be maintained in the office of the Chief Inspector of Mines.

Rule 43.—If any person proves to the satisfaction of the Board of Examiners that he has, without any fault on his part, lost or been deprived of a certificate granted to him under these rules, otherwise than in accordance with any order made under rule 44, the Board of Examiners may, upon such terms and conditions as they may determine, cause a copy of the certificate to which the applicant appears by the register to be entitled, to be delivered to him. The word "Duplicate" shall be stamped across every such copy, and a fee of ₹2, which shall be payable in advance, to the Chief Inspector of Mines at his office shall be charged for it.

Rule 44.—If at any time a representation is made by the Chief Inspector of Mines to the Local Government that the holder of a certificate granted under these rules has been guilty of misconduct or incompetency in the discharge of his duties, or has been convicted of an offence under the Indian Mines Act, 1901, or the rules made under that Act, punishable with fine which may extend to ₹500, or with imprisonment which may extend to three months, the Local Government may cause an inquiry to be made into the matter; and with respect to such inquiry the following provisions shall have effect, namely :—

(*a*) The inquiry shall be public, and shall be held at such place as the Local Government may appoint, and by such person or uneven number of persons as it may direct (hereinafter referred to as 'the Court'); either alone or with the assistance of any assessor or assessors named by the Local Government. Such assessors shall be practical mining engineers or persons with a knowledge of the practical working of mines. The functions of the assessors shall be purely advisory and they shall not be regarded as members of the Court.

(*b*) The Local Government shall, before the commencement of the inquiry, furnish the person whose conduct is under inquiry with a copy of the representation on which the inquiry is instituted.

(*c*) The Local Government may appoint any person to undertake the management of the case.

(*d*) The person whose conduct is under inquiry may attend the inquiry, and may either conduct his case personally or be represented by any other person approved by the Court.

(*e*) If a majority of the persons constituting the Court thinks fit, the person whose conduct is under inquiry may be required to deliver up his certificate at any time before or during the inquiry, and such person shall be bound to comply with such requisition, unless he shows sufficient cause to the contrary.

(*f*) The Court shall, on the conclusion of the inquiry, send to the Local Government a report containing a full statement of the case together with its opinion thereon and such account of or extracts from the evidence as it may think fit; and, if it considers that the certificate in question should be cancelled or suspended, it shall add a recommendation to that effect. In the event of the members of the Court disagreeing in their opinion or recommendations, the dissentient or dissentients from the opinion of the majority may forward a separate report to the Local Government with a statement of their recommendations.

(*g*) After considering the report or reports and recommendation or recommendations (if any) submitted under clause (*f*), the Local Government may cancel or suspend the certificate and, if it does so, the fact of such cancellation or suspension shall, if the certificate is produced, be endorsed upon it, and, if it is not produced or if at any time a duplicate has been granted under rule 43, be notified in the *Gazette of India* and in the local official Gazette.

Rule 45.—Save as provided in rules 49 and 50, no person shall act as manager of a mine in which more than 150 persons are on an average employed underground simultaneously, or the average output of which exceeds 1,800 tons a month, unless he holds a first class certificate granted under these rules.

Rule 46.—Save as provided in rules 49 and 50, no person shall act as manager of a mine in which more than 50 or less than 150 persons are on an average employed underground simultaneously, or the average output of which exceeds 600 tons and does not exceed 1,800 tons a month unless he holds a first or second class certificate granted under these rules.

APPENDIX IV—*contd.*

Rule 47.—Save as provided in rules 49 and 50, no person shall act as the manager of a mine in which not more than 50 persons are on an average employed underground simultaneously, or the average output of which does not exceed 600 tons a month, unless he is the holder of a first or second class certificate, or of a permit, granted under these rules. If the Chief Inspector of Mines should by written order so require, no person shall act as the manager of such a mine unless he is the holder of a first or second class certificate granted under these rules.

Rule 48.—Rules 45 to 47 shall not come into force until the 21st October 1906.

Rule 49.—Notwithstanding anything in rules 45 to 47, the Chief Inspector of Mines may authorise any person, whom he may consider competent, to act as manager of any mine for a specified period, whether that person does or does not hold any certificate or permit under these rules. The Chief Inspector of Mines may revoke such an authority at any time, without giving any reason for his action and at his sole discretion, and such order shall be final.

Rule 50.—Notwithstanding anything in the preceding rules, the owner, agent, or manager of a mine may, in emergent cases, authorise any person whom he may consider competent to act as manager of the mine which he owns, or for which he is agent or manager:

Provided that no such authority shall extend for a period in excess of four weeks, and that the owner, agent or manager shall send to the Chief Inspector of Mines, with the least possible delay, a written notice intimating that such an appointment has been made, and stating the emergent nature of the circumstances. The Chief Inspector of Mines may revoke any authority so granted, and such order shall be final.

Rule 51.—Save as provided in rule 52 no person shall act as manager of more than one mine.

Rule 52.—Managers holding first or second class certificates may, at the discretion of the Chief Inspector of Mines, be allowed to manage more than one mine, if the Chief Inspector is of opinion that the mines supervised by them are near enough to one another to permit of effective supervision being exercised, and that an adequate subordinate supervising staff is maintained at such mines.

Rule 53.—(*a*) The owner, agent, or manager of every mine shall supply the Chief Inspector of Mines, within one month from the date on which these rules come into force, with the following information, namely:—

(1) The full name and address of each manager; (2) the number and class of the certificates held by them; (3) the name of the mines or particulars sufficient to identify the portions of the mines, in the charge of each such manager.

(*b*) All changes in the addresses of such managers, and all new appointments, shall be reported within one month to the Chief Inspector of Mines. The information referred to in sub-clause (*a*) above shall also be supplied in writing by the owner, agent, or manager to the Chief Inspector of Mines in respect of all new appointments which may subsequently be made.

Rule 54.—Save as provided in rules 41, 49 and 50 an appeal may be referred to the Mining Board in respect of any order passed by the Chief Inspector of Mines in virtue of the powers conferred on him by these rules, and the order of the Mining Board thereon shall be final. If no Mining Board has been constituted in respect of the Province or Administration in which the appellant is employed, the appeal shall lie to the Local Government, and the order by the Local Government thereon shall be final.

W. L. HARVEY,
Secretary to the Government of India.

APPENDIX IV—*contd.*

No. 3938—35.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

GEOLOGY AND MINERALS.

NOTIFICATION.

Simla, the 23rd May 1906.

In exercise of the power conferred by section 20, sub-section (2), clause (*h*), of the Indian Mines Act, 1901 (VIII of 1901), the Governor General in Council is pleased to direct that the following form for reporting the occurrence of accidents in mines shall be substituted for that prescribed by the Notification of the Government of India in the Revenue and Agriculture Department, No. 3352—45-32, dated the 27th December 1901 :—

No.

NOTICE OF ACCIDENT.

Indian Mines Act, 1901.

From—

To—The Chief Inspector of Mines, Calcutta, through the District Magistrate of (1) and (2).

Dated , *190* .

SIR,

I have the honour to furnish the following particulars of a $\frac{\text{fatal}}{\text{serious}}$ accident which has occurred at the Mine :—

Situation of the Mine 1. (Village, Station, District, Province)			
2. Mineral worked			
3. Name and postal address of owner			
4. Name and sex of persons.		Age.	Occupation.
Killed.	Injured.		

APPENDIX IV—*contd.*

5. Date and hour of accident . .	
6. Place of accident	
7. Cause and description of accident .	
8. Classification of accident (see next page) (4)	
9. Nature of injury and, if fatal, cause of death	

I have the honour to be,
Sir,
Your most obedient servant,
Owner,
Agent,
Manager.

Notes and Instructions.

(1) Section 17 of the Indian Mines Act provides that when any accidental explosion occurs in a mine or when any accident occurs in or at a mine causing loss of life or serious bodily injury, the Owner, Agent, or Manager of the mine shall give such notice of the explosion or accident to such authorities in such form and within such a time as may be prescribed. By Notification No. 3352—45-32, dated the 27th December 1901, it is prescribed that the notice should be sent to the Chief Inspector of Mines, Calcutta, through the Magistrate of the District within 24 hours of the occurrence of the accident.

(2) The notice of the accident may be sent through the Sub-Divisional Officer instead of through the Magistrate if that course is more convenient. (Letter from the Government of India, No. 2594—102-3, dated Simla, the 7th August 1902.)

(3) An injury is said to be serious which involves or will in all probability involve the loss of or permanent injury to any limb, or to the sight or hearing, or fracture of any limb, or enforced absence from work for 20 day or which is declared by any medical officer to be serious. (Circular No. 42—70-6, dated 4th September 1902, of the Government of India in the Department of Revenue and Agriculture.)

(4) The following terms are to be used in column 8:—

(1) Explosions of firedamp, (2) falls of roof; (3) falls of side; (4) in shafts (overwinding); (5) in shafts (ropes and chains breaking); (6) in shafts (whilst ascending or descending by machinery); (7) in shafts (falling into the shaft from the surface); (8) in shafts (falling from part of the way down); (9) in shafts (things falling from the surface); (10) in shafts (things falling from part of the way down); (11) in shafts (miscellaneous); (12) suffocation by gases; (13) by explosives; (14) irruptions of water or falling into water; (15) haulage; (16) by underground machinery; (17) sundries underground; (18) by surface machinery; (19) surface boilers or pipes bursting; (20) on surface railways or tramways belonging to the mine; (21) miscellaneous on surface.

W. L. HARVEY,
Secretary to the Government of India.

APPENDIX IV—*concld.*

Nos. 3939—3954-35.

A copy is forwarded to the Governments of Madras, Bombay, Bengal,* the United Provinces, the Punjab, Burma and Eastern Bengal and Assam, the Hon'ble the Chief Commissioner of the Central Provinces, the Hon'ble the Resident at Mysore and Chief Commissioner of Coorg, the Hon'ble the Agent to the Governor General in Rajputana and Chief Commissioner of Ajmer, and the Hon'ble the Agent to the Governor General and Chief Commissioner, North-West Frontier Province, for information, with reference to

Mr. Arbuthnot's endorsement No. 35—45-32, dated the 27th December 1901.
r . Carlyle's letter No. 490, dated the 26th January 1906.

A copy is forwarded, for information, to the Foreign Department / Railway Board / Director of the Geological Survey of India / Chief Inspector of Mines in India, with reference to Mr. Arbuthnot's endorsement No. 35—45-32, dated the 27th December 1901.

A copy is forwarded to the Secretary, Indian Mining Association.

By order, etc.,

G. RAINY,

Offg. Under-Secy. to the Govt. of India.

APPENDIX V.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

Serial number.	Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine, and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed.		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle).							
1	Agabeg, A. A. . . . Sijua P. O.	Bansjora . .	Bansjora, Sijua, E. I. R. .	Annuda Prosad Mittra. *Permit No. 3.*	...	...	...	76	27	
2	Agabeg Bros. . . . (See column No. 7.)	Jogta . . (4 mines).	Jogta, Sijua, E. I. R. .	L. St. J. Kelly, *1st class service No. 42. Authorization, No. 51, to act as Manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	549	139	
3	Agarwala, Jagannath Ramjus . Jharia P. O.	Khas Jharia .	Khas Jharia, Jharia, E. I. R.	Ramjus Agarwala	...	...	...	70	36	
4	Agarwala, Ramjus . . Jharia P. O.	Futtehpur .	Futtehpur, Jharia, E. I. R.	Ramjus Agarwala	...	...	...	...	...	
5	Aldih Coal Co., Ld. . (See column No. 7).	Bhutgoria .	Bhutgoria, Jharia, E. I. R.	G. Miller, *1st class competency, No. 57, in lieu of English certificate. Authorization, No. 8, to act as Manager of more than one mine.*	J. Murphy .	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	271	13	
6		Soorgoojia .	Soorgoojia, Jharia, E. I. R.							
7	Angarpatra Coal Co., (P. C. Roy and others). Katrasgarh P. O.	Angarpatra .	Angarpatra, Katrasgarh, E. I. R.	Girish Chandra Chandra.	Hari Pada Goswami, *2nd class service, No. 59.*	...	...	130	43	
8	Angarpatra Colliery Co. (Virgi Akhai & others). Katrasgarh P. O.	Angarpatra .	Angarpatra, Katrasgarh, E. I. R.	Megji Bhimji Relia. *2nd class service, No. 85.*	...	...	...	55	24	
9		Kantapahari .	Kantapahari, Katrasgarh, E. I. R.	...	...	...	...			

10	Angarpatra (South) Coal Co. (Bejoy Krishna Banerji). Katrasgarh P. O.	Kantapahari	Kantapahari, Katrasgarh, E. I. R.	Hem Chandra Sircar.	...	...	...	...	...
11	Bagchi, R. N. Jharia P. O.	Dobari (5 mines).	Dobari, Jharia, E. I. R.	Trivonga Chakravarty, *2nd class service, No. 36. Authorization, No. 28, to act as Manager of more than one mine.*	...	...	...	57	126
12	Banerji & Co., Harish Chandra Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Harish Chandra Banerji.	...	...	...	20	19
13	Banerji's Coal Concern, J. L. (See column No. 7).	Surataur (New)	Jharia Khas, Jharia, E. I. R.	Anurup Kristo Banerji, *1st class service, No. 41.*	...	Laik and Banerji, 7, Swallow Lane, Calcutta.	...	83	33
14	Bansdeopur Coal Co. (P. H. Creet). Kusunda P. O.	Bansdeopur	Bansdeopur, Kusunda, E. I. R.	G. H. Creet, *1st class service No. 43.*	...	...	...	230	130
15	Barakar Coal Co., Ld. (See column No. 7).	Loyabad (10 mines).	Loyabad, Kusunda, E. I. R.	E. S. Bennertz, *1st class service, No. 21. Authorization, No. 39, to act as Manager of more than one mine.*	...	Bird and Co., 101-1, Clive Street, Calcutta.	...	750	600
16	Barakar (North) Coal Co. Jharia P. O.	Lodna	Lodna, Jharia, E. I. R.	Joy Krishna Mittra, *1st class service, No. 40.*	...	...	...	200	95
17	Barari (East) Coal Co. (Tricumji Jiban Dass). 25, Pollock Street, Calcutta.	Parbad	Parbad, Jharia, E. I. R.	Govardhan Dass Manishanker, *1st class service, No. 76.*	...	...	...	133	49
18		Jinagora	Jinagora, Jharia, E. I. R.	T. D. Rewa Sankar.	...	...	...	152	62
19	Beerbhum (New) Coal Co., Ld. (See column No. 7).	Banstakola	Banstakola, Jharia, E. I. R.	Arthur Lane, *1st class service, No. 118.*	...	Balmer, Lawrie & Co., 103, Clive Street, Calcutta.	...	24	48
20	Bengal Bhatdih Coal Co. (See column No. 7).	Bhatdih	Murulidih Katrasgarh, E. I. R.	H M. Bull, *1st class service, No. 23.*	...	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta.	...	...	...
21	Bengal (Central) Coal Co. (See column No. 7).	Kantapahari (west).	Kantapahari, Katrasgarh, E. I. R.	Jani Rewa Shankar Kalyanji.	...	Madhowji Hirji & Co., Calcutta.	...	41	14

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine, and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager, and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed.		Remarks.
								Below ground.	Above ground.	
			Bengal Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
22	Bengal Coal Co., Ld. 5, Fairlie Place, Calcutta.	Murulidih	Murulidih, Katrasgarh, E. I. R.	H. M. Bull, *1st class service, No. 23.*	...	See column No. 2	...	419	200	
23		Puddugora	Puddugora, Katrasgarh, E. I. R.	A. M. Thaddeus, *1st class service, No. 7.*	...		...	69	37	
24	Bengal Iron & Steel Co., Ld. (See column No. 7).	Noonoodih	Noonoodih, Jharia, E. I. R.	J. W. Cooper, *2nd class service, No. 56.*	...	Martin & Co., 6 & 7, Clive Street, Calcutta.	...	153	50	
25	Bengal Nagpur Coal Co., Ld. (See column No. 7).	Bhuggutdih	Bhuggutdih, Jharia, E. I. R.	D. Bone, *1st class service, No. 9. Authorization, No. 5, to act as Manager of more than one mine.*	...	Andrew, Yule & Co., 7, Clive Row, Calcutta.	...	490	95	
26	Bhalgora Coal Co., Ld. (See column No. 7)	Bhalgora	Bhalgora, Jharia, E. I. R.	W. Barnard, *2nd class service, No. 69. Authorization, No. 888, to manage the mine temporarily.*	...	N. C. Sircar, 5, Clive Ghat Street, Calcutta.	...	1,287	345	R. Barnard, Superintending Engineer.
27		Burragarh	Burragarh, Jharia, E. I. R.	J. B. Wardlaw	...		...	...	...	
28		Simlabahal	Simlabahal, Jharia, E. I. R.							
29	Bhattacharji, U. C. Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	W. C. Bhattacharji. *Permit, No. 24.*	...	...	...	...	...	

30	Bhulanbarari Coal Co. (See column No. 7).	Bhulanbarari	Bhulanbarari, Jharia, E. I. R.	F. W. Heilgers, *1st class service, No. 18.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	250	146
31	Biswas, P. K.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	...	...	...	...	...	...
32	Borrea Coal Co., Ld. (See column No. 7).	Bhagaband	Bhagaband, Jharia, E. I. R.	H. T. C. Martin, *1st class service, No. 5.*	...	F. W. Heilgers, & Co., 136, Canning Street, Calcutta.	...	370	150
33	Bose, J. N.	Kantapahari	Kantapahari, Katrasgarh, E. I. R.	...	...	...	...	...	...
34	B. R. & N. Coal Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Bira Mavji, *2nd class service, No. 99.*	Roja Val gee	...	...	44	19
35	Bulliari Coal Co. Jharia P. O.	Bulliari	Bulliari, Jharia, E. I. R.	Sheth Haridas Naithu, *1st class service, No. 108.*	..	...	...	163	132
36	Bulliari Coal Concern (Khora Ramji). Jharia P. O.	Bulliari	Bulliari, Jharia, E. I. R.	Mulji Akhoy	Nogha Teja	...	...	99	54
37	Busserya Coal Co., Ld. (See column No. 7).	Busserya	Busserya, Kusunda, E. I. R.	Butto Kristo Dash, *2nd class service, No. 94. Authorization, No. 1810, to manage the mine temporarily.*	...	Bhola Nath Dash & Co., Lalbagan, Chandernagore P. O.	...	251	153
38	Chandore Coal Co. (P. K. Roy & others). Katrasgarh P. O.	Chandore	Chandore, Katrasgarh, E. I. R.	Dhon Krishna Mozumdar. *Permit, No. 30.*	...	...	...	...	...
39	Chandra, Girish Chandra	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	Nogendra Nath Dass.	...	...	...	...	...
40	Chandra, Haresmal Ram Katrasgarh P. O.	Tettulia	Tettulia, Katrasgarh, E. I. R.	Jogadamba Prasad Lala, *2nd class service, No. 53.*	...	...	...	136	68
41	Choudhuri, Satya Taran Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	Monmotho Nath Mukerji.	...	...	...	...	...
42	Chuni Lal Coal Co. Kusunda P. O.	Bulliari	Bulliari, Kusunda, E. I. R.	Ram Chandra Marwari. *1st class service, No. 103. Authorization, No. 19, to act as manager of more than one mine.*	...	..	...	85	55

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine, and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed.		Remarks.
								Below ground.	Above ground	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
43	Chutto Lal Kutchi Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	...	...	...	...	...	...	
44	Das, L. H. Jharia P. O.	Kujama	Kujama, Jharia, E. I. R.	Lira Walji, *1st class service, No. 107.*	...	...	...	200	85	
45		Pandeybera	Kujama, Jharia, E. I. R.							
46	Das, R. B. Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Ramji Bechar Das	...	...	...	48	26	
47	Dheriajoba Coal Co. (B. B. Bose). Kusunda P. O.	Dheriajoba	Dheriajoba, Kusunda, E. I. R.	Khudi Ram Banerji, *Permit No. 17.*	...	...	...	18	17	
48	Dobari Coal Co. (S. B. Banerji & R. K. Sahana.) (See column No. 7.)	Dobari	Dobari, Jharia, E. I. R.	Shosi Bhusan Banerji.	...	Woomesh Chander Banerji, 38, Chunapukur Lane, Calcutta.	...	...	...	
49	Dosa, Ganji & Khunji Jharia P. O.	Futtehpur	Futtehpur, Jharia, E. I. R.	Ganji Dosa	...	...	...	...	...	
50	Dutt, B. L. Katrasgarh P. O.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	Girish Chandra Chandra.	...	...	...	...	...	
51	East Indian Coal Co., Ld. (See column No. 7.)	Brahmanbarari & Bhulunbarari.	Brahmanbarari & Bhulunbarari, Jharia, E. I. R.	H. G. Fleury, *1st class service, No. 35.*	E. Miller	Jardine, Skinner & Co., 4, Clive Row, Calcutta	...	1,490	756	J. J. Turnbull, Agent.
52		Bulliari and Khaira.	Bulliari & Khaira, Kusunda, E. I. R.	R. G. M. Bathgate, *1st class competency, No. 8, in lieu of English certificate.*	J. W. Nierses, *1st class service, No. 19.*		...	479	310	
53		Kendwadih	Kendwadih, Kusunda, E. I. R.				...	965	568	

54	Eastern Coal Co., Ld. (See column No. 7).	Bhowra (3 mines.)	Bhowra, Jharia, E. I. R.	R. J. Browne, *1st class competency, No. 17, in lieu of English certificate. Authorization, No. 31, to act as manager of more than one mine.*	...	Mackinnon, Mackenzie & Co., 16, Strand, Calcutta.	...	767	117
55		Kankani	Kankani, Sijua, E. I. R.	W. Jackson, *1st class competency, No. 44, in lieu of English certificate.*	...		...	352	157
56	Empire Coal Co., Ld. (See column No. 7).	Sudamdih	Sudamdih, Jharia, E. I. R.	T. Thomson, *1st class service, No. 57.*	...	Williamson, Magor & Co., 4, Mango Lane, Calcutta.	...	73	53
57	Equitable Coal Co., Ld. (See column No. 7).	Hariladih	Hariladih, Jharia, E. I. R.	G. Miller, *1st class competency, No. 57, in lieu of English certificate. Authorization, No. 8, to act as manager of more than one mine.*		MacNeill & Co., 2, Clive Ghat Street, Calcutta.		100	6
58	Gobindpur Coal Syndicate Katrasgarh P. O.	Gobindpur	Gobindpur, Katrasgarh, E. I. R.	Geo. St. J. D. Wills, *1st class service, No. 68.*	...	...	...	...	...
59	Gopalichak Coal Co., Ld. (See column No. 7).	Gopalichak	Gopalichak, Kusunda, E. I. R.	A. Gregory, *1st class competency, No. 28, in lieu of English certificate.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta.	...	436	186
60		Gopalichak (West)		M. J. Adamson, *1st class service, No. 51.*	...		...	150	70
61	Gorain, N. L. and others. Jharia P. O.	Sowardih	Sowardih, Jharia, E. I. R.	Hari Prasanna Ghosh.	...	.....	...	92	50
62	G. P. C. & Co., (Gova Petha) Jharia P. O.	Jinagora	Jinagera, Jharia, E. I. R.	Gova Petha	...	.....	...	60	20

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company, arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager, and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed. Below ground.	Persons employed. Above ground.	Remarks.
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
63	Hariladih Coal Co., Ld. (See column No. 7.)	Burragarh	Burragarh, Jharia, E. I. R.	Geo. Miller, *1st class competency, No. 57, in lieu of English certificate.* *Authorization, No. 8, to act as Manager of more than one mine.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	...	...	
64		Kendwadih	Kendwadih, Jharia, E. I. R.		...			407	10	
65	Hockly, W. A. Jharia P. O.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	E. Lightle. *Permit, No. 25.*	...	.....	...	...	...	
66	Howji Tribhuban Das Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Dollabji Howji. *2nd class service, No. 97.*	Ramji Purushuttum.	.....	...	94	70	
67	Huntodih Coal Co., Ld. (See column No. 7).	Huntodih	Huntodih, Katrasgarh, E. I. R.	A. G. Hailes, *1st class service, No. 61.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta.	...	16	46	
68	Indian Coal Association Jharia P. O.	Pathardih	Pathardih, Jharia, E. I. R.	Tribhubon Dass Rewa Sankar.	...	.....	...	...	...	
69	Indian Collieries Syndicate, Ld. (See column No. 7).	Jamadoba	Jamadoba, Jharia, E. I. R.	John White, *1st class competency, No. 31, in lieu of English certificate.* *Authorization, No. 30, to act as manager of more than one mine.*	D. Fleming	Kilburn & Co., 4, Fairlie Place, Calcutta.	...	1,203	613	
70	Jharia Coal Association (S. K. Mukherji.) Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	Nanda Lal Mukherji.	...	.....	...	50	10	

71	Jharia Coal Syndicate, Ld. (See column No. 7.)	Dheriajoba	Dheriajoba, Kusunda, E. I. R.	F. Miller, *1st class competency, No. 29, in lieu of English certificate.*	...	Jardine, Skinner & Co., 4, Clive Row, Calcutta.	...	80	34	
72	Jharia Coal Syndicate (See column No. 7.)	Emampahari	Kujama, Jharia, E. I. R.	Sashi Bhusan Mukherji.	...	Barlow & Co., 37, Strand Road, Calcutta.	...	...	...	
73	Jharia Colliery Co., Ld. (See column No. 7.)	Bhaga	Bhaga, Jharia, E. I. R.	W. A. Hockly, *1st class service, No. 39.*	T. Simpson	Hoare, Miller & Co., 38, Strand Road, Calcutta.	...	187	179	
74	Joyrampur Coal Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Ramji Halu	...	.....	...	...	...	
75	Jumoni Coal Co., Ld. (See column No. 7.)	Madhuband (6 mines)	Madhuband, Katrasgarh, E. I. R.	F. J. Ashcroft. *Authorization, No. 1655, to manage the mine temporarily. Authorization, No. 36, to act as Manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	530	255	H. C. Veasey, Agent.
76	Kabiraj, R. C.	Pandedih	Pandedih, Katrasgarh, E. I. R.	...	...	.....	...	...	...	
77	Kanga & Co. Kusunda P. O.	Alkusa	Alkusa, Kusunda, E. I. R.	Ananta Ram Bhor.	...	.....	...	135	65	
78		Kiska	Kiska, Kusunda, E. I. R.		...	.....	...			
79		Kusunda	Kusunda, Kusunda, E. I. R.	Dhanjisha Rustomji Boga, *1st class service, No. 38.*	...	.....	...	...	...	
80	Khaira Coal Syndicate, Ld. (See column No. 7.)	Khaira	Khaira, Kusunda, E. I. R.	F. Miller, *1st class competency, No. 29, in lieu of English certificate.*	...	Jardine, Skinner & Co., 4, Clive Street, Calcutta.	...	77	42	
81		Kurkend	Kurkend, Kusunda, E. I. R.		...		...	77	42	
82	Khan Brothers	Kujama	Kujama, Jharia, E. I. R.	...	...	.....	...	...	...	
83	Khan, Rahim Feroz Katrasgarh P. O.	Tundu	Tundu, Katrasgarh, E. I. R.	Rauf Khan. *Permit, No. 33.*	...	.....	...	20	13	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Jharia Coalfield (No. 1 Inspecton Circle)—*contd.*							
84	Khas Jharia Coal Co. Jharia P. O.	Phularibad	Khas Jharia, Jharia, E. I. R.	Jnanendra Nath Mukherji, *1st class service, No. 91.*	...	.....	...	60	13	
85	Khas Jharia Colliery Co. (See column No. 7.)	Khas Jharia	Khas Jharia, Jharia, E. I. R.	G. M. Darby, *1st class service, No. 1.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	....	250	135	
86	Khengarji Triku & Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Mawji Rudra *Permit, No. 36.*	...	.....	...	43	14	
87	Khimji Moorji & Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	K. M. G. Khimji	...	.....	...	30	16	
88	Khora Ramji Kutchi Jharia P. O.	Jharia Khas	Jharia Khas, Jharia, E. I. R.	Narain Pachon, *1st class service, No. 101.*	...	.....	...	30	10	
89	Koondoo, Sunda Charan	Kesalpur	Kesalpur, Katrasgarh, E. I. R.	...	...	.....	...	...	...	
90	Kor, Sri Hari Joydebkunduli P. O., Birbhum.	Dobari	Dobari, Jharia, E. I. R.	Dhan Hari Kor	...	.....	...	*Nil*	8	
91	Kujama (North) Coal Co. Jharia P. O.	Kujama	Kujama, Jharia, E. I. R.	Gangi Dosa	...	.....	...	55	35	
92	Kurkend (Central) Coal Co., Ld. (See column No. 7.)	Kurkend	Kurkend, Kusunda, E. I. R.	D. A. Whyte, *1st class service, No. 45.*	..	Anderson, Wright & Co., 22, Strand Road, Calcutta.	...	1,484	65	
93	Kurkend Coal Co. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Behary Lall Dutt, *1st class service, No. 70.*	...	.....	...	69	30	
94	Kusunda and Nayadi Collieries, Ld. (See column No. 7.)	Kusunda and Nayadi.	Kusunda, Kusunda. E. I. R.	C. L. Phillips, *1st class service, No. 100.*	G. John, *1st class service, No. 44.*	Martin & Co., 6 and 7, Clive Street, Calcutta.	...	856	950	

95	Lakorka Coal Co., Ld. (See column No. 7.)	Lakorka	Lakorka, Katrasgarh, E. I. R.	Lalit Mohan Chowdhuri, *1st class service, No. 33.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	197	84	
96	Lodna Colliery Co., Ld. (See column No. 7.)	Chasnalla	Chasnalla, Jharia, E. I. R.	H. J. Chambers, *1st class competency, No. 10, in lieu of English certificate.*	...	Turner, Morrison & Co., 6, Lyon's Range, Calcutta.	...	...	...	
97		Lodna (5 mines.)	Lodna, Jharia, E. I. R.	A. S. Thomson, *1st class competency, No. 9, in lieu of English certificate. Authorizations, Nos. 1 and 43, to act as Manager of more than one mine.*	...		...	1,012	914	
98	Lutchipur Coal Co., Ld. (See column No. 7.)	Choitodih	Choitodih, Katrasgarh, E. I. R.	T. C. Barker, *1st class service, No. 67. Authorization, No. 40, to act as Manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	165	350	H. C. Veasey, General Manager.
99	Manbhum (New) Coal Co., Ld. (See column No. 7.)	Ganzlatar	Ganzlatar, Sijua, E. I. R.	F. L. Cork, *1st class service, No. 30.*	...	Octavius Steel & Co., 14, Old Court House Street, Calcutta.	...	250	125	
100	Marine Coal Co., Ld. (Late East Kurkend Coal Co.) (See column No. 7.)	East Kurkend	Kurkend, Kusunda, E. I. R.	R. F. Augier, *1st class service, No. 26.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta.	...	105	56	
101	Mehta, R. D. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	...	...	.....	...	*Nil*	50	
102	Motiram Coal Co. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Ram Chandra Marwari, *1st class service, No. 103. Authorization, No. 29, to act as Manager of more than one mine.*	...	.....	...	115	69	
103	Mukherji & Co., K. L. Katrasgarh P. O.	Tettulia	Tettulia, Katrasgarh, E. I. R.	Poolin Behary Mittra, *1st class service, No. 56.*	...	.....	...	...	...	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
104	Mukherji & Co., R. B. Jharia P. O.	Kujama . .	Kujama, Jharia, E. I. R.	Keshob Chandra Mitter, *2nd class service, No. 60.*	...	.....	...	150	...	
105		Kujama (South) .	Kujama, Jharia, E. I. R.	..	...	.....	...		40	
106	Mukherji, Nanda Lal . . Sijua P. O.	Pandedih . .	Pandedih, Sijua, E. I. R. .	Nanda Lal Mukherji.	...	.....	...	...	...	
107	Nandi, Maharaja Manindra Chandra, Cossimbazar P. O. Murshidabad.	Ekra Khas .	Ekra, Kusunda, E. I. R. .	Basanto Kumar Roy, *1st class service, No. 88.*	...	.....	...	298	55	Monmotho Nath Roy, General Manager.
108	Nanji, Khanji & Sanji . . Jharia P. O.	Kujama . .	Kujama, Jharia, E. I. R. .	Valji Kheta, *2nd class service, No. 75.*	...	.....	...	...	...	
109	National Coal Co. . . . (Radha Kinkur Chattoraj) . Katras P. O.	Chandore . .	Chandore, Sijua, E. I. R. .	Upendra Nath Nandi.	...	.. ...	...	7	6	
110	North-West Coal Co., Ld. . (See column No. 7.)	Ena . .	Ena, Jharia, E. I. R. .	D. Bone, *1st class service, No. 9. Authorization, No. 5, to act as Manager of more than one mine.*	...	Andrew Yule, & Co., 7, Clive Row, Calcutta.	...	94	60	
111	Nowagarh Coal Co., Ld. (See column No. 7).	Kailodih . .	Kailodih . . .	T. K. Fleischer, *1st class service, No. 10. Authorization, No. 35, to act as Manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	...	...	H. C. Veasey, General Manager.
112		Katras . . (13 mines).	Katras, Katrasgarh, E. I. R.		...			870	366	

113	Oriental Coal Association Jharia P. O.	Sudamdih	Sudamdih, Jharia, E. I. R.	Sachindra Nath Bose, *2nd class service, No. 100.*	...	.....	...	30	35	
114	Pain B. L. Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Narendra Nath Roy. *Permit, No. 8.*	...	.....	...	22	20	
115	Pal Srinath. 53, Mirzapur Street, Calcutta.	Sendra	Sendra, Sijua, E. I. R.	Anurup Kristo Banerji, *1st class service, No. 41.*	...	.....	...	225	62	
116	Pandeybera Colliery Co. Daya Sankar Shamji. Jharia P. O.	Pandeybera	Kujama, Jharia, E. I. R.	Daya Sankar, Shamji, *2nd class service, No. 19.*	...	.....	...	65	13	
117	Patel & Co. Kusunda P. O.	Kusunda	Kusunda, Kusunda, E. I. R.	Keshob Chandra Mitter, *2nd class service, No. 60.*	...	.....	...	49	39	
118	Premji and Devshi Hamir	Durgapur	Durgapur, Jharia, E. I. R.	Devshi Hamir, *2nd class service, No. 1. Authorization, No. 16, to act as manager of more than one mine.*	...	.....	...	65	48	
119		Futtehpur	Futtehpur, Jharia, E. I. R.		...	.....	...			
120	Raha and Son, Sasi Bhusan (late Mylne & Co.) (See column No. 7.)	Godhur	Godhur, Kusunda, E. I. R.	Purna Chunder Biswas, *1st class service, No. 105.*	...	.....	...	176	46	
121	Raniganj Coal Association, Ld. (See column No. 7.)	Alkusa	Alkusa, Kusunda, E. I. R.	J. S. Kean, *1st class competency, No. 36, in lieu of English certificate. Authorizations, Nos. 12 and 55, to act as manager of more than one mine.*	...	Kilburn & Co., 4, Fairlie Place, Calcutta.	...	169	85	
122		Ganhudih	Ganhudih		...		...	60	30	
123		Kiska	Kiska, Kusunda, E. I. R.		...		...	...	...	
124		Kustore (4 mines.)	Kiska, Kusunda, E. I. R.		...		...	200	115	

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								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
125	Reliance Coal Co., Ld. (See column No. 7.)	Mudidih (8 mines).	Mudidih, Sijua, E. I. R.	A. A. V. Sam, *1st class service, No. 48. Authorization, No. 41, to act as manager of more than one mine.*	...	Bird & Co., 101-1 Clive Street, Calcutta.	...	806	369	
126	R. M. R. Coal Concern Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Mavji Gokal, *2nd class service, No. 121.*	...	.....	...	60	16	
127	Roy, J. K. Kusunda P. O.	Kusunda	Kusunda, Kusunda, E. I. R.	Tincary Bose, *1st class service, No. 94.*	Indra- Narain Chackravarty.	.....	...	168	53	
128	Roy, Moheswar & Srikontho, Kusunda P. O	Gararia	Gararia, Kusunda, E. I. R.	Brojo Kishore Sen, *Permit, No. 35.*	...	.....	...	...	...	
129	Roy, P. K. Katrasgarh P. O.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	Gosto Behari Mozumdar. *Permit, No. 34.*	...	.....	...	...	...	
130		Surataur	Jharia Khas, Jharia, E. I. R.	A. C. Banerji	...	... ..	...	62	38	
131	Sankar, T. R. Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Chuni Lal	...	.....	...	...	...	
132	Seal, K. B. Jharia P. O.	Surataur	Jharia Khas, Jharia, E. I. R.	Ananta Lal Mukherji.	Hari Pado Mukherji, *1st class service, No. 55.*	.....	...	39	30	
133	Selected Coal Co. (Kalianji Shamji). See column No. 7.)	Kusunda	Kusunda, Kusunda, E. I. R.	Deoram Purshotam Vankani, *2nd class ser-*	...	Kanji Monji & Co., 210, Harrison Road, Calcutta.	...	73	33	

134	Shewji Anand & Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Shamji Anand	...	.....	...	39	19	
135	Sijua Coal Co., Ld. (See column No. 7.)	Budruchak	Budruchak, Sijua, E. I. R.	A. H. Higby, *1st class service, No. 86.*	W. F. Bampton, *2nd class service, No. 37.*	Balmer, Lawrie & Co., 103, Clive Street, Calcutta.	...	*Nil*	*Nil*	
136		Sijua	Sijua, Sijua, E. I. R.							
137	Singh, B. L. Katrasgarh P. O.	Gobindpur	Gobindpur, Katrasgarh, E. I. R.	M. M. Sen Gupta	...	.....	...	440	472	
138	Singh, Jorabar Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	.....	...			250	142	
139	Sircar, R. B. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Mathura Nath Ghosh, *2nd class service, No. 8.*	...	.....	...	56	11	
140	Smith, C. J. (See column No. 7.)	Bagdiggi	Bagdiggi, Jharia, E. I. R.	H. J. L. Belletti, *1st class service, No. 3.*	...	Hoare, Miller & Co., 38, Strand Road, Calcutta.	...	230	200	
141	Srimani, J. N. Katrasgarh P. O.	Angarpatra	Angarpatra, Sijua, E. I. R.	Rakhal Das Mukherji, *2nd class service, No. 76.*	...	.....	...	180	65	
142		Kantapahari	Kantapahari, Sijua, E. I. R.							
143	Standard Coal Co., Ld. (See column No. 7.)	Benahir	Benahir, Jharia, E. I. R.	G. D. Scott, *1st class competency, No. 2.*	S. B. Banerji.	F. W. Heilgers & Co., 136, Canning Street, Calcutta.	...	920	485	G. M. Darby, Agent.
144		Hariladih	Hariladih, Jharia, E. I. R.	N. Miller, *1st class service, No. 50. Authorization No. 14, to act as manager of more than one mine.*	...					
145		Jharia Khas	Jharia Khas, Jharia, E. I. R.		...		...	...	...	
146	Sudamdih Coal Co. Jharia P. O.	Sudamdih	Sowardih, Jharia, E. I. R.	K. N. Ghose	...	.....	...	...	...	
147	Sudamdih Coal Co., Ld. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Abhoya Kumar Roy Chowdhury, *1st class service, No. 95.*	...	N. C. Sircar, 5, Clive Ghat Street, Calcutta.	...	...	...	
148	Sudriadih Coal Co., Ld. Nowagarh P. O.	Sudriadih	Sudriadih, Katrasgarh, E. I. R.	W. Combey *1st class competency, No. 68 in lieu of English certificate.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta.	...	...	...	

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								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*concld.*							
149	Tentulia Colliery Co. Katrasgarh P. O.	Tentulia	Tentulia	Gosto Behary Roy, *2nd class service, No. 124.*	...	D. N. Ghosh & Bros. North Bantra, Howrah.	...			E. M. Patterson, Managing Director.
150	Tetturia Coal Co., Ld. Katrasgarh P. O.	Tetturia	Tetturia, Katrasgarh, E. I.R.	F. B. Foster, *1st class service, No. 47.*	...	.....	...	26	11	
151	Tetturia (West) Collieries Co. (C. M. Carapiet) Katrasgarh P. O.	Tetturia	Tetturia, Katrasgarh, E. I. R.	R. S. Ashcroft, *Authorization, No. 1462, to manage the mine temporarily.*	...	.....	...	...	...	
152	Titulmuri Coal Co., Ld. Sijua P. O.	Titulmuri (3 mines).	Titulmuri, Sijua, E.I.R.	E. G. Seth Sam, *1st class service, No. 75. Authorization, No. 42, to act as manager of more than one mine.*	...	.....	...	197	46	C. H. Armstrong, Managing Director.
153	Trigunait, Bhubaneswar. Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	Sasi Bhusan Ghosh, *2nd class service, No. 52.*	...	.....	...	...	...	
154	Trigunait, Brojo Bhusan Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sashi Bhusan Ghose.	Bisesswar Roy	.....	...			
155		Ramkanali	Ramkanali, Katrasgarh, E. I. R.					99	43	
156	Trigunait Brothers Coal Co. Katrasgarh P. O.	Angarpatra	Angarpatra, Sijua, E. I. R.	Sasi Bhusan Ghosh, *2nd class service, No. 52.*	Sitikontha Kabiraj.		...	...	...	
157	Trigunait, Behari Lal Katrasgarh P. O.	Braroabara	Braroabara Katrasgarh E. I. R.	Prankishen Trigunait.		.....	...	22	3	

158	Trigunait, Mukteswar Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sasi Bhusan Ghosh, *2nd class service, No. 52.*	...	.....	...	...	...	
159		Kantapahari	Kantapahari, Sijua, E. I. R.							
160	Trigunait, Sudarsan Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sorbeswar Chatterji, *Permit, No. 26.*		.....	...	40	10	
161		Pandedih	Pandedih, Sijua, E. I. R.							
	Bengal—Raniganj Coalfield (No. 2 Inspection Circle).									
1	Abdul Karim & Bros. Barakar P. O.	Kapasara	Kapasara, Mugma, E. I. R.	Ahmed Yusuf. *Permit, No. 37. Authorization, No. 54, to act as Manager of more than one mine.*	...	...	...	...	...	
2	Adam Joosah & Co. Barakar P. O.	Kapasara	Kapasara, Mugma, E. I. R.	Ashutosh Missra, *Permit, No. 15.*	...	...	...	11	2	
	Ahmed Yusuf Barakar P. O.	Egarcoor	Egarcoor, Mugma or Barakar, E. I. R.	Ahmed Yusuf, *Permit, No. 37, Authorization, No. 54, to act as manager of more than one mine.*	...	...	...	18	5	
4	Aldih Coal Co., Ld. (See column No. 7.)	Aldih (4 mines).	Aldih, Sitarampur, E. I. R.	W. O. Mitchell, *1st class service No. 8. Authorization, No. 49, to act as manager of more than one mine.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	...	...	W. Miller, Superintendent.
5	Baraboni Coal Concern, Ld. (See column No. 7.)	Chinchuria	Chinchuria, Baraboni or Asansol, E. I. R.	Sarat Chandra Dutt, *2nd class service, No. 88. Authorization, No. 2104, to manage the mine temporarily.*	...	N. C. Sircar, 5, Clive Ghat Street, Calcutta	...	...	...	W. Burt, Superintending Engineer.
6		Nuni	Nuni, Sitarampur or Asansol, E. I. R.	Bhoyrab Chandra Nandi, *2nd class service, No. 68.*	...		...	153	68	

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			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*							
7	Barakar Brick and Tile Syndicate. Barakar P. O.	Garphalbari .	Garphalbari, Mugma, E. I. R.	G. Shearer,* *2nd class service, No. 10.*	...	...	...	33	4	* Also Managing Director.
8	Barakar Coal Co., Ld. . . Barakar P. O.	Saltore . .	Saltore	George Dixon, *1st class competency, No. 46, in lieu of English certificate.*	...	Bird & Co., 101-1, Clive Street, Calcutta.	...	...	...	
9	Barakar (West) Coal Co. . Barakar P. O.	Mugma . .	Mugma, Mugma, E. I. R.	Sree Nath Mukerjee	...	...	...	...	...	
10	Beerbhum (New) Coal Co., Ld. (See column No. 7.)	Belrui . .	Belrui, Sitarampur, E. I. R.	Amos Lowe, *1st class service, No. 81.*	...	Balmer, Lawrie & Co., 103, Clive Street, Calcutta.	...	92	131	S. Heslop, Superintendent.
11		Borrea . .	Borrea, Kulti, E. I. R. .	J. G. Maughan, *1st class service, No. 13.*	...			683	491	
12	Bengal Coal Co., Ld. 5, Fairlie Place, Calcutta.	Chanch . .	Chanch, Barakar, E. I. R.	W. Forster, *1st class service, No. 12. Authorization, No. 19, to act as Manager of more than one mine.*	J. Hyde .	See column No. 2.	...	869	404	Figures include that of Laikdih mine.
13		Dumarkunda .	Dumarkunda, Barakar, E. I. R.							
14		Laikdih . .	Laikdih, Barakar, E. I. R.							
15		Sanctoria . . (3 mines).	Sanctoria, Barakar, E. I. R.	T. Walsh, *1st class competency, No. 60, in lieu of English certificate. Authorization, No. 24, to act as Manager of more than one mine.*	...		...	565	310	G. F. Scott, Chief Mining Engineer.

16	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta	Sitalpur	Sitalpur, Barakar, E. I. R.	A. Sheridan, *1st class competency, No. 55, in lieu of English certificate. Authorization, No. 15, to act as Manager of more than one mine.*	...	See column No. 2.	...	510	117	G. F. Scott, Chief Mining Engineer.
17		Sodepur	Sodepur, Sitarampur or Barakar, E. I. R.	A. Sheridan, *1st class competency, No. 55, in lieu of English certificate. Authorization, No 15, to act as Manager of more than one mine.*	...		...	838	422	
18	Bengal Imperial Coal Co. Barakar P. O.	Mugma	Mugma, Mugma, E. I. R.	Jadunath Chackerbutty.	...	...	...	...	...	
19	Bengal Iron and Steel Co., Ld. (See column No. 7.)	Kendwa	Kendwa, Barakar or Kulti, E. I. R.	A. H. M. Paton, *1st class competency, No. 39, in lieu of English certificate. Authorization, No. 26 to act as Manager of more than one mine.*	...	Martin & Co., 6 and 7, Clive Street, Calcutta.	...	87	20	
20		Ramnagar	Ramnagar, Barakar or Kulti, E. I. R.							
21	Bengal Nagpur Coal Co. (See column No. 7.)	Gangutia	Gangutia, Barakar, E. I. R.	H. M. Daley, *1st class service, No. 28.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	190	35	
22	Bengal Oriental Coal Co., Barakar P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	Magat Ram Nagar, *Permit, No. 38.*	...	...	...	...	...	
23		Kapasara	Kapasara, Mugma, E. I. R.							
24	Bhattacharji & Co., U. C. Barakar P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	Ramanath Dass	...	...	...	36	19	
25	Bonjamari Coal Co. Charanpur P. O.	Bonjamari	Bonjamari, Baraboni or Asansol, E. I. R.	Ram Chandra Mukherji.	...	...	...	35	25	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

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			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*							
26	Borrea Coal Co., Ld. (See column No. 7.)	Salanpur	Salanpur, Salanpur or Sitarampur, E. I. R.	S. Seddon, *1st class service, No. 72.*	J. Gilmour	F. W. Heilgers & Co., 136, Canning Street Calcutta.	...	400	179	J. Macintosh, Superintendent.
27	Bose, Nabagopal Asansol P. O.	Sarakdiha	Sarakdiha, Asansol, E. I. R.	Nabagopal Bose	M. Chatterji	.....	...	...	...	
28	Central Coal Co. (Sam Lal Sen) Nirshachatti P. O.	Sangamahal	Sangamahal, Mugma, E. I. R.	Preonath Sen, *2nd class service, No. 118.*	...	...	...	...	...	
29	Chatterji, Colliery Co. (A. C. Chatterji). Sitarampur P. O.	Mouthdih	Mouthdih, Sitarampur, E. I. R.	Kedar Nath Chatterji. *2nd class service, No. 112.*	...	.....	...	...	...	
30	Chatterji, Ram Bandhu	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	Mukunda Lal Mondal.	...	.....	...	...	...	
31	Chatterji, Shashi Bhusan 46A, Strand Road, Calcutta.	Khudia	Shampur, Mugma, E. I. R.	.....	...	.....	...	44	30	
32	Chota Dhemo Coal Co. (See column No. 7.)	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	Surendra Nath Sarkar, *1st class service, No. 64.*		M. L. Laik and Banerjee, 7, Swallow Lane, Calcutta.		149	31	
33	Damuda Coal Co., Ld. (See column No. 7.)	Bamundiha	Bamundiha, Sitarampur, E. I. R.	C. H. McCale, *1st class competency, No. 30, in lieu of English certificate.*	J. A. Delmas	Balmer, Lawrie & Co., 103, Clive Street, Calcutta.	...	242	112	
34		Lutchipur	Lutchipur, Sitarampur, E. I. R.				...	390	142	
35	Dutt, Jadab Chandra Barakar P. O.	Mugma	Mugma, Mugma, E. I. R.	Madhab Chandra Dutta.	...	.....	...	13	12	

36	Dutt Kabra Coal Co. Barakar P. O.	Begunia	Begunia, Barakar, E. I. R.	Rajani Kanta Sikdar.	...	.....	...	...	...	
37	Dutt, Prasanno Coomar Sitarampur P. O.	Bamundiha	Bamundiha, Sitarampur, E. I. R.	...	...	.....	...	21	20	
38	East Indian Coal Co., Ld. (See column No. 7.)	Agoa	Agoa, Mugma, E. I. R.	Koilas Chandra Banerji, *2nd class service, No. 3.*	...	Jardine, Skinner & Co., 4, Clive Row, Calcutta.	...	*Nil.*	5	J. J. Turnbull, General Manager.
39	Equitable Coal Co., Ld. (See column No. 7.)	Chowrasi	Chowrasi, Barakar, E. I. R.	Adam Murdoch, *1st class competency, No. 63, in lieu of English certificate.*	...	McNeill & Co., 2, Clive Ghat Street, Calcutta.	...	990	185	W. Miller, Superintendent.
40		Dishargarh	Dishargarh, Barakar, E.I.R	Frank Owen, *1st class competency, No. 23, in lieu of English certificate.*	...		...	1,620	256	
41	Fatka Coal Co. (M. L. Laik, M. G. Chandra and others). Nirshachatti P. O.	Fatka or Pandedih.	Pandedih, Mugma, E. I. R.	Trivanga Lal Laik.	...	.....	...	14	18	
42	Ganguly, Janendra Nath Sitarampur P. O.	Sudihi	Sudihi, Sitarampur, E.I.R.	Bibhuti Bhusan Ganguli.	...	.....	...	...	...	
43	Gorain, Nanda Lal and others. Barakar P. O.	Begunia	Begunia, Barakar, E. I. R.	Ram Pada Mukherji.	Rajendra Lal Sarkar.	.....	...	40	12	
44	Jafar Yusuf Barakar P. O.	Kapasara	Kapasara, Mugma, E. I. R.	Jafar Yusuf.	...	.....	...	28	7	
45	Khudika Coal Co., Ld. (Rai Ram Bandhu Chatterji and others). Sitarampur P. O.	Khudika	Khudika, Salanpur, E. I. R.	Rakhal Chandra Mukherji.	...	.....	...	...	...	
46	Laik & Banerji, 7, Swallow Lane, Calcutta.	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	...	...	See column No. 2.	...	...	...	Same as Chota Dhemo coal Co.
47	Lutchipur Coal Co., Ld. (See column No. 7.)	Lutchipur	Lutchipur, Sitarampur, E. I. R.	G. O. Reaks, *1st class service, No. 53.*	...	Bird & Co., 101-1, Clive Street, Calcutta	...	236	244	E. C. Agabeg, General Manager.
48		Panchgatchia	Panchgatchia, Sitarampur, E. I. R.	E. L. Barnett, *1st class service, No. 99.*	...		...	445	325	
49	Manbhum (New) Coal Co., Ld. (See column No. 7.)	Dhundabad	Dhundabad, Sitarampur, E. I. R.	W. O. Whiffen, *2nd class service, No. 114.*	...	Octavius Steel & Co., 14, Old Court House Street, Calcutta.	...	285	150	.....

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*							
50	Mugma Coal Association (H. M. Banerji). Barakar P. O.	Mugma . .	Mugma, Mugma, E. I. R.	Jugal Kishore Mukherji.	...	.....	...	13	21	
51	Mukherji, Baman Das . . Dishargarh P. O.	Chota Dhemo .	Chota Dhemo, Sitarampur, E. I. R.	Hori Pado Mukherji, *1st class service, No. 55.*	...	.....	...	204	122	
52	Mukherji, Umesh Chandra . Asansol P. O.	Borachak . .	Borachak, Borachak, E. I. R.	Raj Ballav Mukherji, *2nd class service, No. 34.*	...	.....	...	98	48	
53	Nandi, Maharaja Manindra Chandra. Cossimbazar P. O., Murshidabad.	Begunia . .	Begunia, Barakar, E. I. R.	Ajodhya Nath Mukherji.	...	.....	...	133	50	Monmotho Nath Roy, General Manager.
54		Begunia Khas .	Begunia, Barakar, E. I. R.		...	.....	...	...	...	
55	Oriental Coal Association, (H. C. Bose), 7, Pathuriaghata Street, Calcutta.	Bamundiha .	Bamundiha, Sitarampur, E. I. R.	Nabagopal Bose .	...	...	...	...	...	
56	Parek, Kasu Lal . . . Barakar P. O.	Rajpura . .	Rajpura, Mugma or Barakar, E. I. R.	Kasu Lal Parek .	...	...	...	...	...	
57	Patel, Hati Bhai, . . . Barakar, P. O.	Rajpura . .	Rajpura, Mugma or Barakar, E. I. R.	Hati Bhai Patel	...	.....	...	...	...	
58	Roy, Bonowari Lal . . Barakar P. O.	Kalimati . .	Kalimati, Barakar or Mugma, E. I. R.	Bonowari Lal Roy, *Permit, No. 12.*	...	...	...	13	2	
59	Roy, Jugal Kishore . . Asansol P. O.	Palashdiha .	Palashdiha, Asansol, E. I. R.	Tin Kari Bose, *1st class service, No. 94.*	...	...	...	205	88	

60	Royal Bengal Coal Co., (Netambini Dassi,) Barakar, E. I. R.	Kusumkanali	Kapasara, Mugma E. I. R.	Dukha Haran Mukherji. *2nd class service, No. 21.*	...	.....	...	...	...	
61	Seal, Aghore Nath Nirshachatti P. O.	Sangamahal	Sangamahal, Mugma, E. I. R.	...	...	...	...	...	...	
62	Shampur Coal Co., Ld. (See column No. 7.)	Bamundiha	Bamundiha, Sitarampur, E. I. R.	C. F. H. Armour.	...	George Henderson & Co., 100, Clive Street, Calcutta.	...	127	59	Including figures for Sunderchak.
63		Shampur	Shampur, Mugma, E. I. R.	J. G. Herriotts, *1st class competency, No. 20, in lieu of English certificate.*	...		...	362	104	
64		Sundarchak	Sundarchak, Sitarampur, E. I. R.	C. F. H. Armour	...		...	...	...	Figures included in that of Bamundiha.
65	Sircar, Bidhu Bhusan Shamdih P. O.	Binadikatta	Binadikatta, Salanpur, E. I. R.	Bidhu Bhusan Sircar, *Permit, No. 16.*	...	...	...	...	...	
66	Sitarampur Coal Co., Ld. (See column No. 7.)	Narsamuda	Narsamuda, Asansol or Borachak, E. I. R.	W. V. Hannaford, *1st class service, No. 22.*	...	Lyall, Marshall & Co., 25, Mango Lane, Calcutta.	...	275	195	
67	Sudihi Coal Co., Ld. (See column No. 7.)	Raghunathbatty	Raghunathbatty, Sitarampur, E. I. R.	G. H. Crabb, *1st class competency, No. 26, in lieu of English certificate. Authorization, No. 27, to act as Manager of more than one mine.*	...	Mc.Leod & Co., 31, Dalhousie Square, South, Calcutta.	...	210	52	
68		Sudihi	Sudihi, Sitarampur, E. I. R.		...	.....	...	140	75	
69	Suitable Coal Co Barakar P. O.	Egarcoor	Egarcoor, Mugma or Barakar, E. I. R.	Mugat Ram Nagar.	...	...	...	...	...	
70		Kapasara	Kapasara, Mugma or Barakar, E. I. R.							
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle).							
1	Adjai Coal Co., Ld. (See column No. 7.)	Nandi (2 mines).	Nandi, Jamuria, or Raniganj, E. I. R.	Robert Mitchell, *1st class service, No. 2. Authorization, No. 3, to act as Manager of more than one mine.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	448	288	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
2	Apcar & Co. 19, Radha Bazar, Calcutta.	Charanpur	Domohani, Baraboni, or Asansol, E. I. R.	E. M. Patterson, *1st class service, No. 4.*	F. B. Maltby, *1st class service, No. 116.*	See column No. 2.	...	333	243	F. J. Agabeg, General Manager.
3	Bagchi, Purna Chandra Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Purna Chandra Bagchi, *2nd class service, No. 51.*	...	.....	...	260	100	
4	Baliram Coal Co. Kalipahari P. O.	Ghusik	Ghusik, Kalipahari, E. I. R.	Ananta Lall Ghosh, *1st class service, No. 115, and Authorization, No. 38, to act as Manager of more than one mine.*	...	.....	...	...	...	
5		Srikistopur	Kalipahari, Kalipahari, E. I. R.							
6		Mosila	Mosila, Kalipahari, E. I. R.	...	...	.....	...	85	70	
7	Bamundiha Coal Concern Kalipahari P. O.	Chattapathar	Chattapathar, Kalipahari, E. I. R.	Luchan Chandra Mitter, *2nd class service, No. 31.*	Radha Bullov Chuckerbutty.	Dwarka Nath Khettry, 89, Cross Street, Calcutta.	...	...	...	
8	Banerjee Collieries. (Indra Nath Banerji). Chowkidanga P. O.	Jotejanaki	Jotejanaki, Toposi or Raniganj, E. I. R.	Pramath Nath Hazra, *2nd class service, No. 110.*	Ram Pada Hazra.	.....	...	...	...	

9	Banerji, Harihar . . . Kalipahari P. O.	Ghusik (West) .	Ghusik, E. I. R.	Kalipahari,	Harihar Banerji, *1st class service, No. 114. Authorization, No. 37, to act as Manager of more than one mine.*	Kani Lall Adikheri.	.....	...	...	...	
10	Banerji, Kashi Bilash . . Raniganj P. O.	Jamunakanali .	Jamunakanali, E. I. R.	Raniganj,	Protap Chandra Topadar, *2nd class service, No. 105.*	...	.....	...	...	20	
11	Banerji, Raghu Nath and others, Mejia P. O., *vid* Raniganj.	Kalikapur . .	Kalikapur, E. I. R.	Raniganj,		...	.....	...	45	25	
12	Bankura Coal Co., (H. H. Banerji and R. C. Mukherji), Kalipahari P. O.	Dobalia . .	Kalipahari, E. I. R.	Kalipahari,	Harihar Banerji, *1st class service, No. 114. Authorization, No. 37, to act as manager of more than one mine.*	...	.....	...	...	...	
13	Barabcni Coal Concern, Ld. (See column No. 7).	Nimcha . .	Nimcha, Raniganj, E. I. R.		Suresh Chander Sircar, *2nd class service, No. 66.*	...	N. C. Sircar, 5, Clive Ghat Street, Calcutta.	...	79	68	W. Burt, Superintending Engineer.
14		Baraboni . .	Baraboni, Asansol or Baraboni, E. I. R.		W. Burt, *1st class competency No. 61, in lieu of English certificate.*	...		...	56	28	
15		Haripur . .	Haripur, Toposi or Raniganj, E. I. R.		Kondorpo Mohun Mazumdar.	...		...	1,023	126	
16	Baraboni (New) Coal Co. (Kunja Behari Pal Chowdhuri and others), Charanpur P. O.	Baraboni (New) .	Baraboni, Asansol or Baraboni, E. I. R.		Soshi Bhusan Roy.	...	.....	...	...	...	
17	Baraboni (South) Coal Co. (Kunja Behari Pal Chowdhuri), Charanpur P. O.	Baraboni (South)	Baraboni, Asansol or Baraboni, E. I. R.		O. W. Bensley, *Permit, No. 23.*	...	.....	...	...	...	
	Baraboni (West) Coal Co. . Charanpur P. O.	Napara (South) .	Baraboni, Asansol or Baraboni, E. I. R.		K. N. Bose .	...	.....	...	...	...	

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			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
19	Barakar Coal Co., Ld. (See column No. 7).	Jamgram	Jamgram, Gaurangdi, E. I. R.	E. C. Agabeg, *1st class service, No. 60.*	...	Bird & Co., 101/1, Clive Street, Calcutta.	...	567	212	E. C. Agabeg, Superintendent.
20		Kantapahari	Kantapahari, Gaurangdi, E. I. R.	E. G. Nash, *Authorization, No. 1529, to manage the mine temporarily.*	...		...	820	299	
21	Basanti Oakdene Coal Co. (See column No 7).	Mamudpur	Mamudpur, Toposi or Raniganj, E. I. R.	Pran Krishna Chatterjee, *2nd class service, No. 22. Authorization, No. 50, to act as manager of more than one mine.*	...	Stanley Oakes & Co., 5, Mangoe Lane, Calcutta.	...	85	75	
22		Mouzra			...					
23	Beerbhum (New) Coal Co., Ld. (See column No. 7).	Baraboni	Baraboni, Asansol or Baraboni, E. I. R.	A. Russell, *1st class competency, No. 54, in lieu of English certificate.*	...	Balmer, Lawrie & Co. 103, Clive Street, Calcutta.	...	925	925	Figures include that of Jairamdanga.
24		Chinchuria	Chinchuria, Baraboni or Asansol, E. I. R.	Charles Lea, *1st class competency, No. 53, in lieu of English certificate.*	...		...	157	101	S. Heslop, General Manager.
25		Jairamdanga	Jairamdanga, Asansol or Baraboni, E. I. R.	A. Russell, *1st class competency, No. 54, in lieu of English certificate.*	...		...	...	...	Figures included in that of Barabani.

26	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta.	Banksimulla	Banksimulla, Asansol, E. I. R.	T. Chrystle, *1st class competency, No. 25, in lieu of English certificate.*	H. R. Fox, *1st class service, No. 92.*	See column No. 2	...	55	35	G. F. Scott, Chief Mining Engineer.
27		Damudapur	Damudapur, Raniganj or Ikra, E. I. R.	*Authorization, No. 18, to act as manager of more than one mine.*	J. N. A. Devine, *1st class service, No. 71.*		...	466	329	
28		Raniganj	Egara, Raniganj, E. I. R.	Claude Leslie Watson, *1st class competency, No. 71, in lieu of English certificate.*	...		...	261	142	
29	Bhagirathi Coal Co. Kalipahari P. O.	Bhutdoba	Kalipahari, Kalipahari, E. I. R.	Rajani Prokas Chackravarty, *1st class service, No. 112.*	Pran Gobinda Sirkar.	.....	...	68	40	
30	Bhattacharji, Shosi Bhusan Chora P. O.	Haripur	Haripur, Toposi or Raniganj, E. I. R.	Nil Madhab Chakrabutti, *2nd class service, No. 104.*	...	.....				
31	Bhuskajuri Coal Co., Ld. (See column No. 7).	Bhuskajuri	Bhuskajuri, Asansol or Baraboni, E. I. R.	W. Hullock, *1st class service, No. 49.*	Gregory Sam	Bird & Co., 101-1, Clive Street, Calcutta.	...	280	240	E. C. Agabeg, General Manager.
32	British India Coal Co., Ld. (See column No. 7).	Napara	Napara, Baraboni or Asansol, E. I. R.	H. E. Myers, *2nd class service, No. 63. 2nd class competency, No. 7 Authorization, No. 1684, to manage the mine temporarily.*	..	The Eastern Landing, Clearing and Forwarding Co., Ld., 28, Strand Road, Calcutta.	...	...	...	
33	Burdwan Coal Co. (G. B. and B. T. Sircar) Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Gopi Ballav Sircar.	...	.....	...	38	25	
34	Burdwan (New) Coal Co. Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Atul Chandra Mukherjee	...	.....	...	40	11	
35	Burman & Co. Charanpur P. O.	Baraboni	Baraboni, Asansol or Baraboni, E. I. R.	Umesh Chandra Roy. *2nd class service No. 54.*	...	.....	...	...	...	

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								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
36	Chatterji, Pran Kishen . . Chowkidanga P. O.	Jotejanaki (2 mines).	Jotejanaki, Toposi or Raniganj, E. I. R.	Rishi Kesh Chatterji, *2nd class service, No. 109.*	Karali Prasad Chatterji.	.....	...	...	...	
37	Creet & Co., S. T. . . Kalipahari P. O.	Ghusik .	Ghusik, Kalipahari, E. I. R.	A. T. Creet, *1st class service, No. 36.*	P. J. Peters and L. A. Creet	.....	...	475	230	S. T. Creet, General Manager.
38		Rampur .	Baraboni, Baraboni or Asansol, E. I. R.	M. A. Creet, *Authorization, No. 1497, to manage the mine temporarily.*	...	.....	...	...	...	
39	Damra Coal Co., Ld. . . (See column No. 7.)	Damra Old) .	Damra, Kalipahari, E. I. R	Sasi Bhusan Patra, *2nd class service, No. 33.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	41	15	
40	Dhadka Coal Co., . . Asansol, E. I. R.	Dhadka . .	Dhadka, Asansol, E. I. R.	.....	Ballomji Nensi	.....	...	...	...	
41	Dhur & Co., B. N. . . Asansol, E. I. R.	Aradanga or Banbistupur.	Banbistupur, Asansol, E. I. R.	Kali Prosanna Bosu.	...	.....	...	34	16	
42	Dutt, Prossuna Kumar . Sitarampur P. O.	Kajra . .	Kajra, Raniganj, E. I. R.	Hem Chandra Dutt, *1st class service, No. 24.*	...	.....	...	...	...	
43	Eastern Coal Co., Ld. . (See column No. 7).	Bankola . .	Bankola, Ukhra or Raniganj, E. I. R.	A. H. Ward, *1st class competency, No. 65, in lieu of English certificate.*	W. Augier, *1st class service, No. 66.*	Mackinnon, Mackenzie & Co., 16, Strand Road, Calcutta.	...	280	150	
44		Joba or Jotemotuk.	Joba, Raniganj, E. I. R.					191	57	
45	Equitable Coal Co., Ld. . (See column No. 7.)	Jamuria . .	Jamuria, Jamuria, Asansol or Raniganj, E. I. R.	W. M. Martin, *1st class competency, No. 64, in lieu of English certificate.*	...	MacNeill, & Co., 2, Clive Ghat Street, Calcutta.	...	...	...	W. Miller, Superintendent.

46	Equitable Coal Co., Ld. (See column No. 7.)	Satpukuria	Satpukuria, Asansol, E.I.R.	A. F. Pennefather, *2nd class service, No. 15, also 1st class competency, No. 1.*		MacNeill & Co., 2 Clive Ghat Street, Calcutta.				W. Miller, Superintendent.
47	G. M. Agreeable Coal Co.	Kessabganj	Kessabganj, Kalipahari, E. I. R.	Gosto Behary Dutt, *Permit, No. 32.*		.....	...	...	...	
48	Ghosal, Sen & Co., Raniganj P. O.	Banskuri	Banskuri, Raniganj, E.I.R.	Lal Behari Sen.	...	.....	...	...	...	
49	Ghosh, Hem Chander Kalipahari P. O.	Ghusik	Ghusik, Kalipahari, E. I. R.	Hem Chander Ghosh.	...	.....	...	28	11	
50	Ghusik Coal Co. Kalipahari P. O.	Ghusik	Ghusik, Kalipahari, E. I. R.	.....	...	.....	...	...	...	
51	Hariladih Coal Co., Ld. (See column No. 7.)	Akhalpur	Akhalpur, Jamuria or Raniganj, E. I. R.	R. Heron	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta.	...	...	...	W. Miller, Superintendent.
52	Jagannath Coal Co. (Jagannath Marwari), Raniganj P .O.	Raghunathchak	Raghunathchak, Raniganj, E. I. R.	Chakar Chandra Pal, *2nd class service, No. 28.*	...	.....	...	46	13	
53	Jharia-Katras Coal Co., Ld. (See column No. 7.)	Sibpur	Sibpur, Raniganj or Asansol, E. I. R.	P. S. Keelan, *1st class service, No. 34. Authorization, No. 2, to act as manager of more than one mine.*	A. T. Spencer and P. Sydney.	Andrew Yule & Co., 7, Clive Row, Calcutta.	...	609	133	
54	Kanga & Co. Chowkidanga P. O.	Sarthakpur	Sarthakpur, Toposi or Raniganj, E. I. R.	T. M. Bamjhi	...	.....	...	...	...	
55	Kaviraj, Ram Lall Gaurangdi P. O.	Sultanpur	Sultanpur, Churulia, E. I. R.	.....	...	.....	...	16	5	
56	Kumarji Bhoja Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Khimji Dhunji, *Permit, No. 7.*	...	.....	...	26	10	
57	Kuordih Coal Co., Ld. (See column No. 7.),	Kuordih	Kuordih, Kalipahari, E. I. R.	Keshab Chandra Sircar, *2nd class service, No. 25.*	...	N. C. Sarkar, 5, Clive Ghat Street, Calcutta.	...	...	...	R. Barnard, Superintending Engineer.
58	Kuordih (East) Coal Co., Ld. (See column No. 7.)	Chelode and East Kuordih.	Kuordih, Kalipahari, E. I. R.	Neelmoni Choudhuri, *1st class service, No. 113.*	...					
59	Laik, Mukundo Lal 7, Swallow Lane, Calcutta.	Haripur	Haripur, Toposi or Raniganj, E. I. R.	Jogendra Nath Chatterji, *2nd class service, No. 50.*	...	See column No. 2	...	...	...	

List of Coal Mines worked under the Indian Mines Act, 1901, British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed. Below ground.	Persons employed. Above ground.	Remarks.
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
60	Malia, D. & R. Raniganj P. O.	Jamehari	Jamehari, Raniganj, E.I.R.	Sita Nath Datta, *1st class service, No. 93.*	Rishi Kesh Mukerjee.	.....	...	212	104	
61		Searsol	Searsol, Raniganj, E. I. R.	Chandra Mohun Dass.	...	.....	...	196	75	
62	Martin, J. C. Chowkidanga P. O.	Kenda (South)	Jotejanaki, Toposi or Raniganj, E. I. R.	Ram Rutton Mukherji. *Permit, No. 4.*	...	.....	...	...	...	
63	Marwari, Ganapat Ram Kalipahari P. O.	Kessabganj	Kessabganj, Kalipahari, E. I. R.	Shew Karan Marwari, *2nd class service, No. 6.*	...	.....	...	125	220	
64	Marwari, Jagannath Chora P. O.	Bunbehal	Bunbehal, Ukhra or Raniganj, E. I. R.	Umaprosad Mukherji, *2nd class service, No. 27.*	...	.....	...	39	18	
65	Marwari, Ram Bilas Kalipahari P. O.	Kessabganj	Kessabganj, Kalipahari, E. I. R.	Ram Bilas Marwari, *2nd class servic 5.*	...	.....	...	...	...	
66	Meyer Coal Co. (See column No. 7.)	Jubilee	Kalipahari, Kalipahari, E. I. R.	Basanto Kumar Dutt, *2nd class service, No. 70.*	Babu Lal Tanti	Meyer Brothers, 28 Pollock Street, Calcutta.	...	54	5	
67		Nichinta	Nichinta, Kalipahari, E. I. R.		Mahabir Prosad Dass.			85	9	
68		Nuniapool	Kalipahari, Kalipahari, E. I. R.		Girindra Nath Sarcar.			26	10	
69	Misser, Promatha Nath Barah P. O.	Arrong	Arrong, Churulia, E. I. R.	Promatha Nath Misser, *Permit, No. 10.*	...	.....	...	29	3	
70	Mukherji, Baman Dass Kalipahari P. O.	Ghusik (New)	Ghusik, Kalipahari, E. I. R.	Akhoy Kumar Pal.	...	.....	...	35	8	

71	Mukherji, Banwari Lal . . Asansol P. O.	Napara . .	Napara, Baraboni or Asansol, E. I. R.	Gopinath Chatterji, *2nd class service, No. 12.*	...	...	...	112	48		
72	Mukherji, Romesh Chandra . Kalipahari P. O.	Ghusik . .	Ghusik, Kalipahari, E. I. R.	Radha Krishna Chatterji, *2nd class service, No. 113.*	...	...	...	...	...		
73	Mukherji, Soshi Bhusan, 6, Fakir Chand Chuckerbutty's Lane, Beadon Square P.O., Calcutta.	Faridpur . .	Charanpur, Baraboni or Asansol, E. I. R.	Kanti Chandra Bhattacharji, *2nd class service, No. 111.*	Surendra Nath Mukerjee.	...	...	81	41		
74		Nandi (New) .	Nandi, Jamuria or Raniganj, E. I. R.					34	15		
75		Niga Valley .	Kalipahari, Kalipahari, E. I. R.	Jasoda Dulal Ghosh, *2nd class service, No. 108.*	Beni Madhab Mukerjee.	...	...	47	28		
76	Nandi Coal Association (Siba Prosad and others) Nandi P. O.	Nandi . .	Nandi, Jamuria or Raniganj, E. I. R.	Suchand Ghosh, *2nd class service, No. 44.*	Pasupati Chatterjee & Tarak Nath Laik.	...	...	...	...		
77	Nandi, Maharaja Manindra Chandra. Cossimbazar P. O., Murshidabad.	Napara . .	Napara, Baraboni or Asansol, E. I. R.	Kali Prasanna Punja, *2nd class service, No. 102.*	...	...	...	...	...	Monmotho Nath Roy, General Manager.	103
78		Vanora Khas .	Vanora, Baraboni or Asansol, E. I. R.	.....				69	24		
79	Nodia Coal Co. (Abhoy Kumar Rai Chowdhuri). Ukhra P. O.	Nodia . .	Nodia, Ukhra or Raniganj, E. I. R.	Bepin Behari Sircar, *2nd class service, No. 78.*	...	...	...	...	...		
80	Ondal Coal Co., Ld. (See column No. 7.)	Chora . .	Chora, Toposi or Raniganj, E. I. R	C. C. Augier, *1st class service, No. 46. Authorization, No. 20, to act as manager of more than one mine.*	F. W. Heilgers & Co., 136, Canning Street, Calcutta.			307	153	J. Macintosh, General Manager.	
81		Sunpur . .	Sunpur, Toposi or Raniganj, E. I. R.					28	100		
82	Phularitand Coal Co., Ld. (See column No. 7.)	Banali . .	Banali	J. N. Hazra .	Nani Lal Goswami.	N. C. Sircar, 5, Clive Ghat St., Calcutta.	...	103	63	R. Barnard, Superintending Engineer.	
83		Damra (New) .	Damra, Kalipahari, E. I. R.	Purna Chandra Ganguli, *2nd class service, No 49.*				69	21		

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*concld.*							
84	Poniati Coal Concern (U. C. Roy & Co.—A. C. Ghosh), Charanpur P. O.	Faridpur . .	Domohani, Asansol, E. I. R.	Adhar Chandra Ghosh, *2nd class service, No. 46.*	Jagad Bhusan Rai Choudhuri.	.....	...	125	68	
85	Raniganj Coal Association (See column No. 7.)	Toposi . .	Toposi, Toposi or Raniganj, E. I. R.	J. B. Wilkinson, *1st class competency, No. 6.*	...	Kilburn & Co., 4 Fairlie Place, Calcutta.	...	145	87	
86	Reliance Coal Co., Ld. (See column No. 7.)	Charanpur .	Domohani, Asansol, E. I. R.	P. Scott, *1st class service, No. 73.*	R. G. Rooke . *2nd class competency, No, 6.*	Bird & Co., 101-1, Clive Street, Calcutta.	...	325	90	
87	Sadhu, Ram Chandra . . Charanpur P. O.	Palasthal . .	Jamtara, Jamtara, E. I. R.	.....	...	.....	...	9	5	
88	Sahana & Co. (R. K. Sahana) . Chowkidanga P. O.	Sonachora .	Sonachora, Toposi or Raniganj, E. I. R.	Nishanath Rai Chowdhuri.	..	.....	...	55	36	
89	Sarthakpur Coal Co. . . Chowkidanga P. O.	Sarthakpur .	Sarthakpur, Toposi or Raniganj, E. I. R.	Devendra Narayan Rai, *2nd class service, No. 48.*	...	.....	...	27	55	
90	Sibpur Coal Co., Ld. (See column No. 7.)	Pretoria . .	Sibpur, Jamuria, Asansol or Raniganj, E. I. R.	P. S. Keelan, *1st class service, No. 34. Authorization, No. 2, to act as manager of more than one mine.*	...	Andrew Yule & Co., 7 Clive Row, Calcutta.	...	344	45	
91	Sidheswari Coal Co. Asansol, P. O.	Sathpukuria .	Dhasal, Asansol, E. I. R. .	.....	...	.....	...	...	..	
92	Singaran Coal Syndicate, Ld.. (See column No. 7.)	Jotejanaki .	Jotejanaki, Toposi, E. I. R.	J. C. Martin, *2nd class service, No. 64.*	...	MacLeod & Co., 31 Dalhousie Square, Calcutta.	...	144	74	
93	Singh & Co., K. D. . Kalipahari P. O.	Kalipahari .	Kalipahari, Kalipahari, E. I. R.	Ram Din Lalla .	Esan Chandra Sircar.	.....	...	70	30	

94	Singh, Naba Rong Kalipahari P. O.	Bhutdoba	Bhutdoba, Kalipahari, E. I. R.	Rameshwar Mukherji.	Bhovesh Chandra Ghosal.	.....	...	...	...	
95	Singh, Ram Narayan Asansol, P. O.	Banbistupur	Banbistopur, Asansol, E. I. R.	Baikunto Nath Chowdhuri.	...	.....	...	62	15	
96	Sircar, Banwari Lal Chowkidanga P. O.	Dobrana	Dobrana, Toposi or Raniganj, E. I. R.	Banwari Lal Sircar.	...	.....	...	...	...	
97	Tareni Coal Co. Chora P. O.	Haripur	Haripur, Toposi or Raniganj, E. I. R.	Jogendra Nath Chatterji, *2nd class service, No. 50.*	...	.....	...	87	8	
98	Toposi (Old) Coal Co. Chowkidanga P. O.	Purandihi	Parandihi, Toposi or Raniganj, E. I. R.	Fanindra Nath Ghosh.	...	.....	...	83	33	
99 100	Andrew Yule & Co., 7, Clive Row, Calcutta.	Nandi Shekpur	Nandi, Jamuria or Raniga . R. Shekpur, Raniganj, E. I. R.	C. Tweedie, *Permit, No 28. Authorization, No. 44, to act as manager of more than one mine.*	...	See column No. 2	...	...	...	
Bengal—Giridih Coalfield (No. 2 Inspection Circle).										
1	Bayra Coal Association Giridih P. O.	Lakharia or Bayra.	Lakharia, Giridih, E. I. R.	E. Myers	...	.....	...	129	110	
2	Bengal Coal Co., Ld. 5 Fairlie Place, Calcutta.	Kuldiha	Kuldiha, Giridih, E. I. R.	W. J. Rees, *1st class competency, No. 62, in lieu of English certificate. Authorization, No. 25, to manage more than one mine*	...	See column No. 2	...	659	511	G. F. Scott, Chief Mining Engineer.
3		Paharidih	Paharidih, Giridih, E. I. R.		...		...	...	...	
4	Budheadih Coal Co. (Sundermull) Gadi Shrirampur P. O., Giridih.	Budheadih	Budheadih, Giridih, E.I.R.	Sarbananda Lall, *2nd class service, No. 84.*	...	.....	...	84	45	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Giridih Coalfield (No. 2 Inspection Circle)—*contd.*							
6	East Indian Railway Co., 105, Clive Street, Calcutta.	Kurhurbari	Kurhurbari, Giridih E. I R.	Abraham Wright, *1st class service, No. 16.*	...	See column No. 2	14th June 1905	3,600	2,650	T. H. Ward, Superintendent.
		Serampore	Serampore, Giridih, E. I. R.	G. C. Lathbury, *1st class competency, No 13, in lieu of English certificate.*	...					
7	Palapatra, S. C.	Burwalata	Burwadih, Giridih, E. I. R.	.....	...	.....	...	20	42	
8	Tah & Co., Rakhal Das	Buriadih	Buriadih, Giridih, E. I. R.	Sarat Chunder Tah, *2nd class service, No. 128.*	...	.....	...	...	...	
			Bengal—Rajmahal Coalfield (No. 3 Inspection Circle).							
1	Dé, Girish Chandra	Domanpur	Domanpur, Rampurhat, E. I. R.	.....	...	.....	...	...	6	Figures include that of Sarsabad.
2		Sarsabad	Sarsabad, Rampurhat, E. I. R.	.....	...	.....	...	...	...	Figures included in that of Domanpur.
3	De, Ramani Kanto Dumka P. O.	Domanpur Balki	Bhalki, Rampurhat E. I. R.	.....	...	.....	...	5	....	
4		Ghatchora	Asanbani, Rampurhat, E. I. R.	.....	...	.....	...	3	...	
5	De, Soshi Bhusan Rasikpur, Dumka.	Bargo	Bargo, Rampurhat, E. I. R.	.....	...	.....	...	13	...	

Bengal—Daltonganj Coalfield (No. 1 Inspection Circle).

1	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta.	Rajhara . .	Rajhara, Daltonganj, E. I. R.	Reginald Bell, *1st class competency, No. 35, in lieu of English certificate.*	M. Munroe .	See column No. 2 .	...	550	300	G. F. Scott, Chief Mining Engineer.

Central Provinces—(No. 3 Inspection Circle).

1	Government of India, Nagpur, C. P.	Ballarpur . .	Ballarpur, Warora, G. I. P.	R. Wordsworth, *1st class competency, No. 22, in lieu of English certificate.*	T. P. Yeoman, *1st class competency, No. 19, in lieu of English certificate.*	.....	...	32	86	
2		Warora . .	Warora, Warora, G.I.P. .					413	331	
3	Great Indian Peninsula Railway. Bombay P. O.	Mohpani . .	Mohpani, Gadarwada, G. I. P.	F. L. G. Simpson, *1st class competency, No. 32, in lieu of English certificate.*	James Kipling, *2nd class service, No. 4.*	.....	...	478	312	
4	Mineral Syndicate of Bombay .	Rampur .	Rampur, Jharsaguda, B. N. R.	...	...	.....	...	...	...	
5	Pench Valley Coal Co., Ld. (See column No. 7.) .	Chandametta .	Chandametta, Chhindwara, N. W. R.	F. I. L. Ditmas, *1st class competency, No. 15, in lieu of English certificate.*	Joseph Rylance, *2nd class competency, No. 1, in lieu of English certificate.*	Shaw, Wallace & Co., 20, Strand Road, Calcutta.	...	196	32	

Panjab—(No. 2 Inspection Circle).

1	Chand, Lakhmi . . .	Chhaja . .	Ara, Jhelum, . .	Ram Saran .	...	.....	...	...	...	
2	Dass, Bhagwan and Ram Kalabagh P. O.	Kalabagh . .	Kalabagh, Mari, N. W. R.	Partab Singh .	...	.....	...	...	...	
3		Katha . .	Katha, Dandot, N. W. R.	...	...	.....	...	...	...	
4		Tajuwala . .	Tajuwala . . .	...	...	.....	...	225	75	
5		Thakkar Kot .	.....	...	...	.....	...	270	80	
6	Dass, Lala Ganesh .	Kusak . .	Kusak, Jhelum . .	Mohamad Hasan	...	.....	...	...	...	
7	Gujrat, P. O.	Chapper . .	Chapper, Jhelum . .	Munshi Jog Raj. *Permit, No. 31.*	...	.....	...	..	...	

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			Panjab (No. 2, Inspection Circle.)—*concld.*							
8	North-Western Railway Co. Lahore P. O.	Dandot	Dandot, Khewra, N.W.R.	D. Thomson, *1st class competency, No. 50, in lieu of English certificate.*	...	See column No. 2	...	914	426	
9		Chiti Dand	Mukrach, Dandot, N. W. R.	Kirpa Ram, *2nd class service, No. 32.*	...		...	206	189	
10		Chiti Dand (West No. 1).	Ara, Dandot, N. W. R.	Mull Singh. *Permit, No. 2.*	...		...	...	...	
11		Chiti Dand (West No. 7).	Ara, Dandot, N. W. R.				...	...	...	
12		Dholadhur (small)	Ara, Dandot, N. W. R.				...	...	...	E. L. Hope, Superintendent.
13		Dholadhur (large)	Ara, Dandot, N. W. R.	Ram Saran	...		...	...	...	
14		Hasanwala	Ara, Dandot, N. W. R.				...	...	...	
15	Panjab Coal Co. (Lakhmi and Deva Singh) Abbottabad P. O.	Katha	Katha, Dandot, N. W. R.	Amir Ali *Permit, No. 1.*	...	See column No. 2	...	37	22	
16		Laphi	Kendwal, Dandot, N. W. R.	Mangal Singh	...		...	...	...	
17		Mithachoya	Ara, Dandot, N. W. R.	Ram Saran	...		...	9	20	
18		Morjhang	Sardi or Morjhang, Dandot, N. W. R.	Arjan Singh *Permit, No. 6.*	...		...	7	1	
19		Nilawala, No. 1.	Kendwal, Dandot, N. W. R.	...	...		...	...	...	
20		Nilawala, No. 2.	Kendwal, Dandot, N. W. R.	...	...		...	...	...	

21	Ram & Sons, R. S. Rocha Abbottabad P. O.	Chota Tajuwala	Tajuwala	Uttam Singh, *Permit, No 22.*	...	...	...	17	8	
22		Dakhala	.....	Mangal Singh	...	...	...	...	...	
23		Narianwala	Narianwala	Fakir Chand, *Permit, No. 20.*	...	...	...	...	...	
24	Shah, Syed Mehdi, Campbellpur P. O.	Chhoi Garyal	— Attock	Jumon Khan	...	...	...	2	1	
25		Surg Salar	— Attock	...	...	...	...	6	...	
26	Singh, Malik Mohun	Nalli	Nalli	Mull Singh, *Permit, No 2.*	...	...	...	1	6	

British Baluchistan (No. 2, Inspection Circle).

1	Abdulla Asgharali & Co. Quetta P. O.	Davispur	Thadri, Loralai	...	...	...	...	10	...	
2	Alibhoy Bros. Quetta P. O.	Sor Range	Sor Range, Quetta, N. W. R.	Alibhoy	...	...	...	...	...	
3	Ferozshah, S Quetta P. O.	Digari	Digari, Quetta, N. W. R.	...	...	...	...	...	...	
4		Sor Range	Sor Range, Quetta, N. W. R.	Saleh	...	...	...	20	3	
5	Hossein Ali & Co. Quetta P. O.	Sor Range	Sor Range, Quetta, N. W. R.	Hossein Ali	...	...	...	16	4	
6	Khan, Bahawal Quetta P. O.	Digari	Digari, Quetta, N. W. R.	...	...	...	...	12	3	
7	North-Western Railway Lahore P. O.	Khost	Khost, Khost, N. W. R.	Arthur Mort, *1st class competency, No. 48, in lieu of English certificate.*	...	...	...	465	239	
8	Patel, K. B. Burjorji, D. Quetta P. O.	Mach	Mach, Bolan, N. W. R.	Khoda Baksh	...	...	...	120	19	
9		Sor Range	Sor Range, Quetta, N. W. R.	Bhagwan Dass	...	...	...	40	20	
10	Sorabji & Co. Quetta P. O.	Digari	Digari, Quetta, N. W. R.	Mano	...	...	...	8	3	
11		Sor Range	Sor Range, Quetta, N. W. R.	...	...	...	...	12	3	

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								Below ground.	Above ground.	
			Burma (No. 1, Inspection Circle).							
1	Burma Mines Development and Agency, Ld. West Moat Road, Mandalay P. O.	Thitchauk .	Kalewa, Upper Chindwin .	E. Kirkpatrick .	...	.....	...	16	25	
			Eastern Bengal and Assam (No. 1, Inspection Circle).							
1	Assam Railways and Trading Co., Ld. Margherita, P. O.	Ledo Valley (East).	Makum, Margherita D. S. R.	G. E. Harris, *1st class competency, No. 42, in lieu of English certificate.*	...	.....	...	339	144	
2		Ledo Valley (West).			...	.....	...			
3		Ledo Valley (Upper).			...	.....	...	178	125	
4		Namdang .			...	.....	...	283	161	
5		Tikak .			...	.....	...	294	187	
6		Tirap .			...	.....	...	11	4	
7	Maolong Coal Co. .	Maolong .	Ishamati, Sylhet .	B. L. Brodhurst, *1st class competency, No. 38, in lieu of English certificate.*	...	.....	...	22	10	

Index to List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

Name of Mine.	Name of Owner or Company.	Serial No. in Mines ist.
	Bengal—Jharia Coalfield (No. 1 Inspection Circle).	
Ikusa	anga & Co.	77
	Raniganj Coal Association, Ld.	121
ngarpatra	Angarpatra Coal Co.	7
	Angarpatra Colliery Co.	8
	Srimani, J. N.	141
	Trigunait Bros. Coal Co.	156
agdiggi	Smith, C. J.	140
ansdeopur	Bansdeopur Coal Co.	14
ansjora	Agabeg, A. A.	1
anstakola	New Beerbhum Coal Co., Ld.	19
enahir	Standard Coal Co., Ld.	143
haga	Jharia Colliery Co., Ld.	73
hagaband	Borrea Coal Co., Ld.	32
halgora	Bhalgora Coal Co., Ld.	26
hatdih	Bengal Bhatdih Coal Co.	20
howra	Eastern Coal Co., Ld.	54
huggutdih	Bengal Nagpur Coal Co., Ld.	25
hulanbarari	Bhulanbarari Coal Co.	30
	East Indian Coal Co., Ld.	51
hutgoria	Aldih Coal Co., Ld.	5
rahmanbarari	East Indian Coal Co., Ld.	51
rarcabara	Trigunait, Behari Lal	157
udruchak	Sijua Coal Co., Ld.	135
ulliari	Bulliari Coal Co.	35
	Bulliari Coal Concern	36
	Chuni Lal Coal Co.	42
	East Indian Coal Co.	52
urragarh	Bhalgora Coal Co., Ld.	27
	Hariladih Coal Co., Ld.	63
usserya	Busserya Coal Co., Ld.	37
handore	Banerji & Co.	12
	Chandore Coal Co.	38
	National Coal Co.	109
	Pain, B. L.	114
	Trigunait, Brojo Bhusan	154
	Trigunait, Mukteswar	158
	Trigunait, Sudarsan	160
hasnalla	Lodna Colliery Co., Ld.	96
hoitodih	Lutchipur Coal Co., Ld.	98

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*	
Dheriajoba	Dheriajoba Coal Co.	47
	Jharia Coal Syndicate, Ld.	71
Dobari	Bagchi, R. N.	11
	Dobari Coal Co.	48
	Kor, Sri Hari	90
Durgapur	Premji and Devshi Hamir	118
Ekra Khas	Nandi, Maharaja Manindra Chandra	107
Emampahari	Jharia Coal Syndicate	72
Ena	North-West Coal Co., Ld.	110
Futtehpur	Agarwala, Ramjas	4
	Dosa, Ganji and Khunji	49
	Premji and Devshi Hamir	119
Ganhudih	Raniganj Coal Association, Ld.	122
Ganzlatar	New Manbhum Coal Co., Ld.	99
Gararia	Das, R. B.	46
	Howji Tribhuban Das	66
	Roy, Moheswar and Srikontho	128
	Sankar, T. R.	131
Gobindpur	Gobindpur Coal Syndicate	58
	Singh, B. L.	137
Godhur	Raha & Son, Sasi Bhusan	120
Gopalichak	Gopalichak Coal Co., Ld.	59
Gopalichak (West)		60
Hariladih	Equitable Coal Co., Ld.	57
	Standard Coal Co., Ld.	144
Huntodih	Huntodih Coal Co., Ld.	67
Jamadoba	Indian Collieries Syndicate, Ld.	69
Jharia Khas	Khora Ramji Kutchi	88
	Standard Coal Co.	145
Jinagora	East Barari Coal Co.	18
	G. P. C. & Co.	62
Jogta	Agabeg Bros.	2
Joyrampur	B. R. & N. Coal Co.	34
	Joyrampur Coal Co.	74
	Khengarji Triku & Co.	86
	Khimji Moorji & Co.	87
	Mehta, R. D.	101
	R. M. R. Coal Concern	126
	Shewji Anand & Co.	134
Kailodih	Nowagarh Coal Co., Ld.	111
Kankani	Eastern Coal Co., Ld.	55

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*	
Kantapahari	Angarpatra Colliery Co.	9
	Bose, J. N.	33
	South Angarpatra Coal Co.	10
	Srimani, J. N.	142
	Trigunait, Mukteswar	159
Kantapahari (West)	Central Bengal Coal Co.	21
Katras	Nowagarh Coal Co., Ld.	112
Kendwadih	East Indian Coal Co., Ld.	53
	Hariladih Coal Co., Ld.	64
Kesalpur	Koondoo, Sunda Charan	89
Khaira	East Indian Coal Co., Ld.	52
	Khaira Coal Syndicate, Ld.	80
Khas Jharia	Agarwala, Jagannath Ramjas	3
	Khas Jharia Colliery Co.	85
Kiska	Kanga & Co.	78
	Raniganj Coal Association, Ld.	123
Kujama	Das, L. H.	44
	Khan Bros.	82
	Mukherji & Co., R. B.	104
	Nanji, Khanji and Sanji	108
	North Kujama Coal Co.	91
Kujama (South)	Mukherji & Co., R. B.	105
Kurkend	Central Kurkend Coal Co., Ld.	92
	Khaira Coal Syndicate, Ld.	81
	Kurkend Coal Co.	93
	Motiram Coal Co.	102
	Sirkar, R. B.	139
	Sudamdih Coal Co., Ld.	147
Kurkend (East)	Marine Coal Co., Ld.	100
Kustore	Raniganj Coal Association, Ld.	124
Kusunda	Kanga & Co.	79
	Kusunda and Nayadi Collieries, Ld.	94
	Patel & Co.	117
	Roy, J. K.	127
	Selected Coal Co.	133
Lakorka	Lakorka Coal Co., Ld.	95
Lodna	Lodna Colliery Co., Ld.	97
	North Barakar Coal Co.	16
Loyabad	Barakar Coal Co., Ld.	15
Madhuband	Jumoni Coal Co., Ld.	75
Mudidih	Reliance Coal Co., Ld.	125
Murulidih	Bengal Coal Co., Ld.	22

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*concld.*	
Nayadi	Kusunda and Nayadi Collieries, Ld.	94
Noonoodih	Bengal Iron and Steel Co., Ld.	24
Pandedih	Bhattacharji, U. C.	29
	Choudhuri, Satya Taran	41
	Chutto Lal Kutchi	43
	Jharia Coal Association	70
	Kabiraj, R. C.	76
	Mukherji, Nanda Lal	106
	Singh, Jorabar	138
	Trigunait, Bhubaneswar	153
	Trigunait, Sudarsan	161
Pandeybera	Das, L. H.	45
	Pandeybera Colliery Co.	116
Parbad	East Barari Coal Co.	17
Pathardih	Indian Coal Association	68
Phularibad	Khas Jharia Coal Co.	84
Puddugora	Bengal Coal Co., Ld.	23
Ramkanali	Biswas, P. K.	31
	Chandra, Girish Chandra	39
	Dutt, B. L.	50
	Hockly, W. A.	65
	Roy, P. K.	129
	Trigunait, Brojo Bhusan	155
Sendra	Pal, Srinath	115
Sijua	Sijua Coal Co., Ld.	136
Simlabahal	Bhalgora Coal Co., Ld.	28
Soorgoojia	Aldih Coal Co., Ld.	6
Sowardih	Gorain, N. L., and others	61
Sudamdih	Empire Coal Co., Ld.	56
	Oriental Coal Association	113
	Sudamdih Coal Co.	146
Sudriadih	Sudriadih Coal Co., Ld.	148
Surataur	Roy, P. K.	130
	Seal, K. B.	132
Surataur (New)	Banerji's Coal Concern, J. L.	13
Tentulia	Tentulia Colliery Co.	149
Tettulia	Chandra, Haresmal Ram	40
	Mukherji & Co., K. L.	103
Tetturia	Tetturia Coal Co., Ld.	150
	West Tetturia Collieries Co.	151
Titulmuri	Titulmuri Coal Co., Ld.	152
Tundu	Khan, Rahim and Feroz	83

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Raniganj Coalfield (No. 2 Inspection Circle).	
Agoa	East Indian Coal Co., Ld.	38
Aldih	Aldih Coal Co., Ld.	4
Bamundiha	Damuda Coal Co., Ld.	33
	Dutt, Prasanno Coomar	37
	Oriental Coal Association	55
	Shampur Coal Co., Ld.	62
Begunia	Dutt Kabra Coal Co.	36
	Gorain, Nanda Lal, and others	43
	Nandi, Maharaja Manindra Chandra	53
Begunia Khas	Nandi, Maharaja Manindra Chandra	54
Belrui	New Beerbhum Coal Co., Ld.	10
Binadikatta	Sircar, Bidhu Bhusan	65
Bonjamari	Bonjamari Coal Co.	25
Borachak	Mukherji, Umesh Chandra	52
Borrea	New Beerbhum Coal Co., Ld.	11
Chanch	Bengal Coal Co., Ld.	12
Chinchuria	Baraboni Coal Concern, Ld.	5
Chota Dhemo	Chatterji, Ram Bandhu	30
	Chota Dhemo Coal Co.	32
	Mukherji, Baman Das	51
Chowrasi	Equitable Coal Co., Ld.	39
Dhundabad	New Manbhum Coal Co., Ld	49
Dishargarh	Equitable Coal Co., Ld.	40
Dumarkunda	Bengal Coal Co., Ld.	13
Egarcoor	Ahmed Yusuf	3
	Bengal Oriental Coal Co.	22
	Bhattacharji & Co., U. C.	24
	Suitable Coal Co.	69
Fatka	Fatka Coal Co.	41
Gangutia	Bengal-Nagpur Coal Co., Ld.	21
Garphalbari	Barakar Brick and Tile Syndicate	7
Kalimati	Roy, Bonowari Lal	58
Kapasara	Abdul Karim & Bros.	1
	Adam Joosah & Co.	2
	Bengal Oriental Coal Co.	23
	Jafar Yusuf	44
	Suitable Coal Co.	70
Kendwa	Bengal Iron & Steel Coal Co., Ld.	19
Khudia	Chatterji, Shashi Bhusan	31
Khudika	Khudika Coal Co., Ld.	45
Kusumkanali	Royal Bengal Coal Co.	60
Laikdih	Bengal Coal Co., Ld.	14

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*concld.*		
Lutchipur	Damuda Coal Co., Ld.	34
	Lutchipur Coal Co., Ld.	47
Mouthdih	Chatterji Colliery Co.	29
Mugma	Bengal Imperial Coal Co.	18
	Dutt, Jadab Chandra	35
	Mugma Coal Association	50
	West Barakar Coal Co.	9
Narsamuda	Sitarampur Coal Co., Ld.	66
Nuni	Baraboni Coal Concern, Ld.	6
Palashdiha	Roy, Jugal Kishore	59
Panchgatchia	Lutchipur Coal Co., Ld.	48
Pandedih	Fatka Coal Co.	41
Raghunathbatty	Sudihi Coal Co., Ld.	67
Rajpura	Parek, Kasu Lal	56
	Patel, Hati Bhai	57
Ramnagar	Bengal Iron and Steel Co., Ld.	20
Salanpur	Borrea Coal Co., Ld.	26
Saltore	Barakar Coal Co., Ld.	8
Sanctoria	Bengal Coal Co., Ld.	15
Sangamahal	Central Coal Co.	28
	Seal, Aghore Nath	61
Sarakdiha	Bose, Nabagopal	27
Shampur	Shampur Coal Co., Ld.	63
Sitalpur	Bengal Coal Co., Ld.	16
Sodepur		17
Sudihi	Ganguly, Janendra Nath	42
	Sudihi Coal Co., Ld.	68
Sundarchak	Shampur Coal Co., Ld.	64
Bengal—Raniganj Coalfield (No. 3 Inspection Circle).		
Akhalpur	Hariladih Coal Co., Ld.	51
Aradanga	Dhur & Co., B. N.	41
Arrong	Misser, Promatha Nath	69
Banali	Phularitand Coal Co., Ld.	82
Banbistupur	Dhur & Co., B. N.	41
	Singh, Ram Narayan	95
Bankola	Eastern Coal Co., Ld.	43
Banksimulla	Bengal Coal Co., Ld.	26
Banskuri	Ghosal, Sen & Co.	48
Baraboni	Baraboni Coal Concern, Ld.	14
	Burman & Co.	35
	New Beerbhum Coal Co., Ld.	23

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*	
Baraboni (New)	New Baraboni Coal Co.	16
Baraboni (South)	South Baraboni Coal Co.	17
Bhuskajuri	Bhuskajuri Coal Co., Ld.	31
Bhutdoba	Bhagirathi Coal Co.	29
	Singh, Naba Rong	94
Bunbehal	Marwari, Jagannath	64
Charanpur	Apcar & Co.	2
	Reliance Coal Co., Ld.	86
Chattapathar	Bamundiha Coal Concern	7
Chelode	East Kuordih Coal Co., Ld.	58
Chinchuria	New Beerbhum Coal Co., Ld.	24
Chora	Ondal Coal Co., Ld.	80
Damra (New)	Phularitand Coal Co., Ld.	83
Damra (Old)	Damra Coal Co., Ld.	39
Damudapur	Bengal Coal Co., Ld.	27
Dhadka	Dhadka Coal Co.	40
Dobalia	Bankura Coal Co.	12
Dobrana	Sircar, Banwari Lal	96
Faridpur	Mukherji, Soshi Bhusan	73
	Poniati Coal Concern	84
Ghusik	Baliram Coal Co.	4
	Creet & Co., S. T.	37
	Ghosh, Hem Chander	49
	Ghusik Coal Co.	50
	Mukherji, Romesh Chandra	72
Ghusik (New)	Mukherji, Baman Das	70
Ghusik (West)	Banerji, Harihar	9
Haripur	Baraboni Coal Concern, Ld.	15
	Bhattacharji, Shosi Bhusan	30
	Laik, Mukundo Lal	59
	Tareni Coal Co.	97
Jairamdanga	New Beerbhum Coal Co., Ld.	25
Jamehari	Malia, D. and R.	60
Jamgram	Barakar Coal Co., Ld.	19
Jamunakanali	Banerji, Kashi Bilash	10
Jamuria	Equitable Coal Co., Ld.	45
Joba	Eastern Coal Co., Ld.	44
Jotejanaki	Banerji Collieries	8
	Chatterji, Pran Kishen	36
	Singaran Coal Syndicate, Ld.	92
Jotemotuk	Eastern Coal Co., Ld.	44
Jubilee	Meyer Coal Co.	66

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
	Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*	
Kajra	Dutt, Prossuna Kumar	42
Kalikapur	Banerji, Raghu Nath, and others	11
Kalipahari	Singh & Co., K. D.	93
Kantapahari	Barakar Coal Co., Ld.	20
Kenda (South)	Martin, J. C.	62
Kessabganj	G. M. Agreeable Coal Co.	47
	Marwari, Ganapat Ram	63
	Marwari, Ram Bilas	65
Kuordih	Kuordih Coal Co., Ld.	57
Kuordih (East)	East Kuordih Coal Co., Ld.	58
Mamudpur	Basanti Oakdene Coal Co.	21
Mosila	Bagchi, Purna Chandra	3
	Baliram Coal Co.	6
	Burdwan Coal Co.	33
	Kumarji Bhoja	56
	New Burdwan Coal Co.	34
Mouzra	Basanti Oakdene Coal Co.	22
Nandi	Adjai Coal Co., Ld.	1
	Nandi Coal Association	76
	Yule & Co., Andrew	99
Nandi (New)	Mukherji, Soshi Bhusan	74
Napara	British India Coal Co., Ld.	32
	Mukherji, Banwari Lal	71
	Nandi, Maharaja Manindra Chandra	77
Napara (South)	West Baraboni Coal Co.	18
Nichinta	Meyer Coal Co.	67
Niga Valley	Mukherji, Soshi Bhusan	75
Nimcha	Baraboni Coal Concern, Ld.	13
Nodia	Nodia Coal Co.	79
Nuniapool	Meyer Coal Co.	68
Palasthal	Sadhu, Ram Chandra	87
Pretoria	Sibpur Coal Co., Ld.	90
Purandihi	Old Toposi Coal Co.	98
Raghunathchak	Jagannath Coal Co.	52
Rampur	Creet & Co., S. T.	38
Raniganj	Bengal Coal Co., Ld.	28
Sarthakpur	Kanga & Co.	54
	Sarthakpur Coal Co.	89
Sathpukuria	Equitable Coal Co., Ld.	46
	Sidheswari Coal Co.	91
Searsol	Malia, D. and R.	61
Shekpur	Yule & Co., Andrew	100

Name of Mine.	Name of Owner or Company.	Serial No. in Mines list.
Bengal—Raniganj Coalfield (No. 13 Inspection Circle)—*concld.*		
Sibpur	Jharia-Katras Coal Co., Ld.	53
Sonachora	Sahana & Co.	88
Srikistopur	Baliram & Co.	5
Sultanpur	Kaviraj, Ram Lall	55
Sunpur	Ondal Coal Co., Ld.	81
Toposi	Raniganj Coal Association, Ld.	85
Vanora Khas	Nandi, Maharaja Manindra Chandra	78
Bengal—Giridih Coalfield (No. 2 Inspection Circle).		
Bayra	Bayra Coal Association	1
Budheadih	Budheadih Coal Co.	4
Buriadih	Tah & Co., Rakhal Das	8
Burwalata	Palapatra, S. C.	7
Kuldiha	Bengal Coal Co., Ld.	2
Kurhurbari	East Indian Railway Co.	5
Lakharia	Bayra Coal Association	1
Paharidih	Bengal Coal Co., Ld.	3
Serampore	East Indian Railway Co.	6
Bengal—Rajmahal Coalfield (No. 3 Inspection Circle).		
Bargo	De, Soshi Bhusan	5
Domanpur	De, Girish Chandra	1
Domanpur Balki	De, Ramani Kanto	3
Ghatchora	De, Ramani Kanto	4
Sarsabad	De, Girish Chandra	2
Bengal—Daltonganj Coalfield (No. 1 Inspection Circle).		
Rajhara	Bengal Coal Co., Ld.	1
Central Provinces (No. 3 Inspection Circle).		
Ballarpur	Government of India	1
Chandametta	Pench Valley Coal Co., Ld.	5
Mohpani	Great Indian Peninsula Railway	3
Rampur	Mineral Syndicate of Bombay	4
Warora	Government of India	2
Punjab (No. 2 Inspection Circle).		
Chapper	Dass, Lala Ganesh	7
Chhaja	Chand, Lakhmi	1
Chhoi Garyal	Shah, Syed Mehdi	24
Chiti Dand	Panjab Coal Co.	9
Chiti Dand (West No. 1)	Panjab Coal Co.	10
Chiti Dand (West No. 7)	Panjab Coal Co.	11

Name of Mine.	Name of Owner or Company.	Serial No. in Mines List.
	Panjab (No. 2 Inspection Circle)—*concld.*	
Dakhala	Ram & Sons, R. S. Rocha	22
Dandot	North-Western Railway Co.	8
Dholadhur (Large)	Panjab Coal Co.	12
Dholadhur (Small)		13
Hasanwala		14
Kalabagh	Dass, Bhagwan and Ram	2
Katha		3
Katha	Panjab Coal Co.	15
Kusak	Dass, Lala Ganesh	6
Laphi	Panjab Coal Co.	16
Mithachoya		17
Morjhang		18
Nalli	Singh, Malik Mohun	26
Narianwala	Ram & Sons, R. S. Rocha	23
Nilawala (No. 1)	Punjab Coal Co.	19
Nilawala (No. 2)		20
Surg Salar	Shah, Syed Mehdi	25
Tajuwala	Dass, Bhagwan and Ram	4
Tajuwala (Chota)	Ram & Sons, R. S. Rocha	21
Thakkar Kot	Dass, Bhagwan and Ram	5
	British Baluchistan (No. 2 Inspection Circle).	
Davispur	Abdulla Asgharali & Co.	1
Digari	Ferozshah, S.	3
	Khan, Bahawal	6
	Sorabji & Co.	10
Khost	North-Western Railway	7
Mach	Patel, K. B. Burjorji D.	8
Sor Range	Alibhoy Bros.	2
	Ferozshah, S	4
	Hossein Ali & Co.	5
	Patel, K. B, Burjorji D.	9
	Sorabji & Co.	11
	Burma (No. 1 Inspection Circle).	
Thitckauk	Burma Mines Development and Agency, Ld.	1
	Eastern Bengal and Assam (No. 1 Inspection Circle).	
Ledo Valley, East	Assam Railways and Trading Co., Ld.	1
Ledo Valley West		2
Ledo Valley, Upper		3
Maolong	Maolong Coal Co.	7
Namdang	Assam Railways and Trading Co., Ld.	4
Tikak		5
Tirap		6

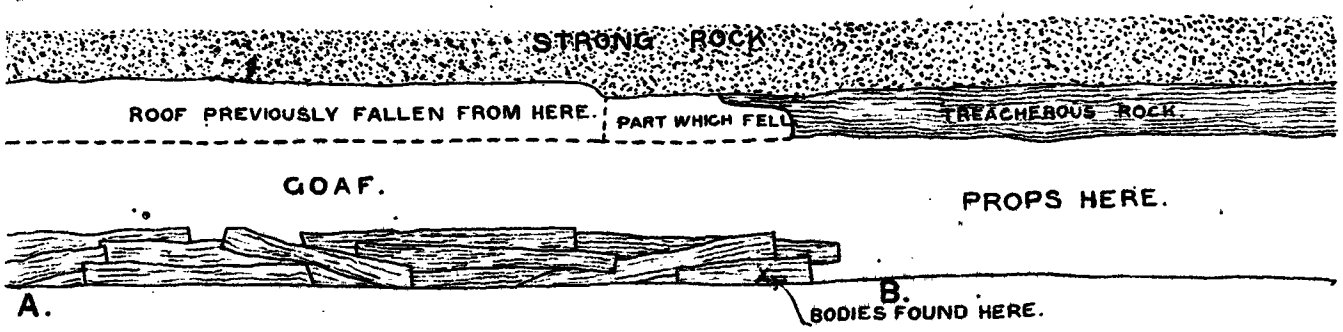
—PLAN & SECTIONS—

OF THE PLACE WHERE THREE WOMEN WERE KILLED BY A FALL—

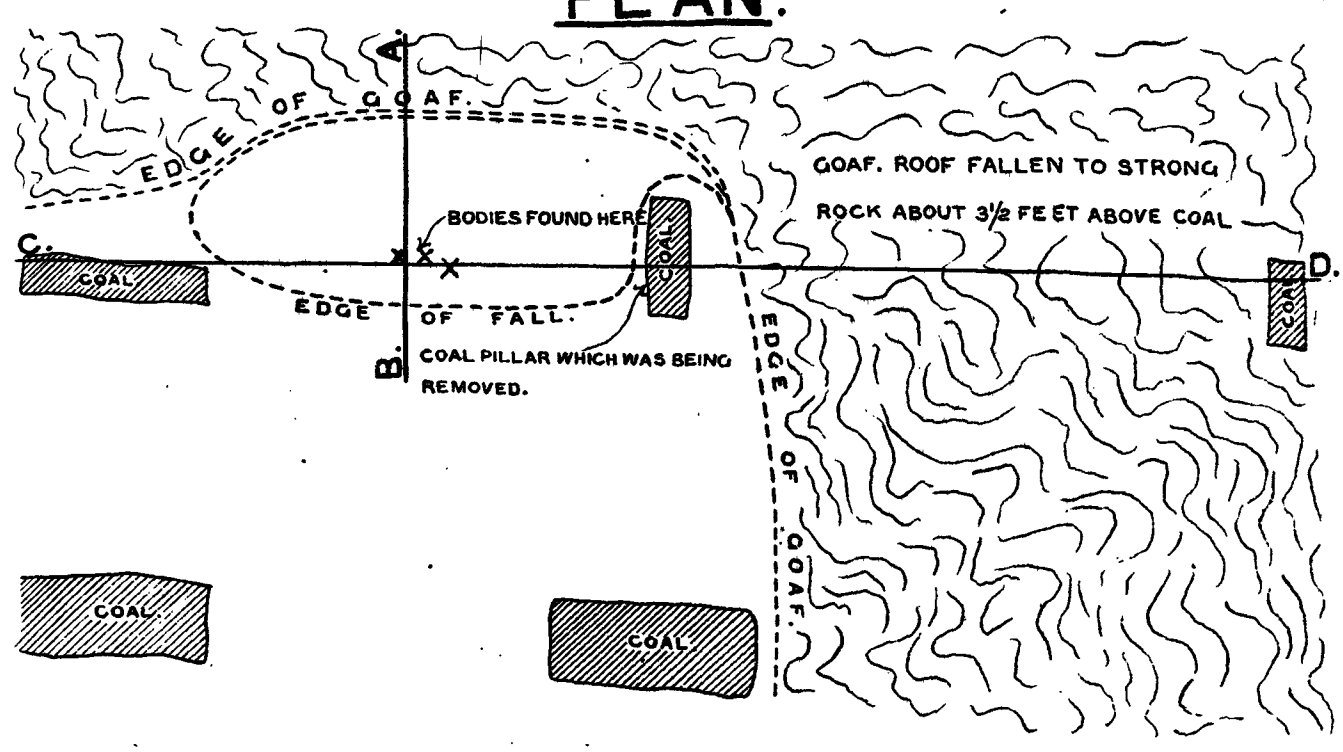
—OF ROOF AT BEGUNIA COAL MINE ON 13TH OCTOBER 1906.—

—SCALE 1 INCH=12 FEET—

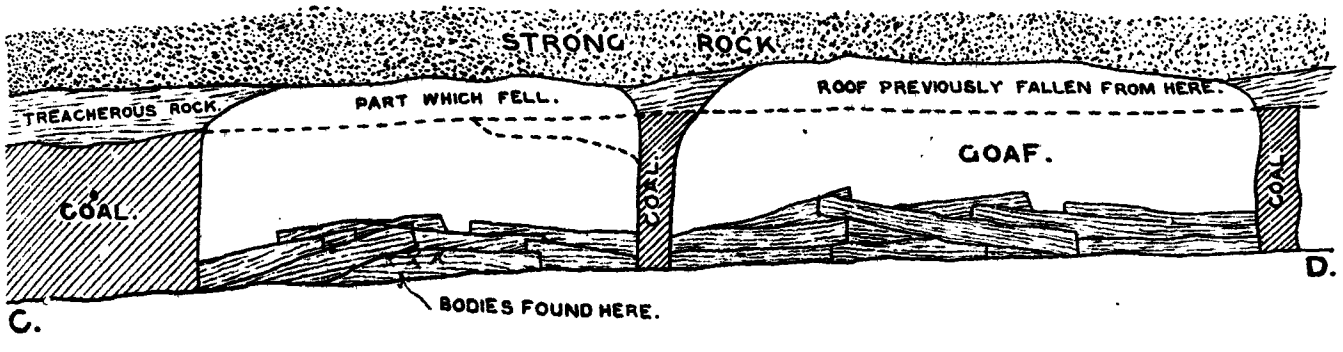
—SECTION ON LINE A.B.—



PLAN.



—SECTION ON LINE C.D.—

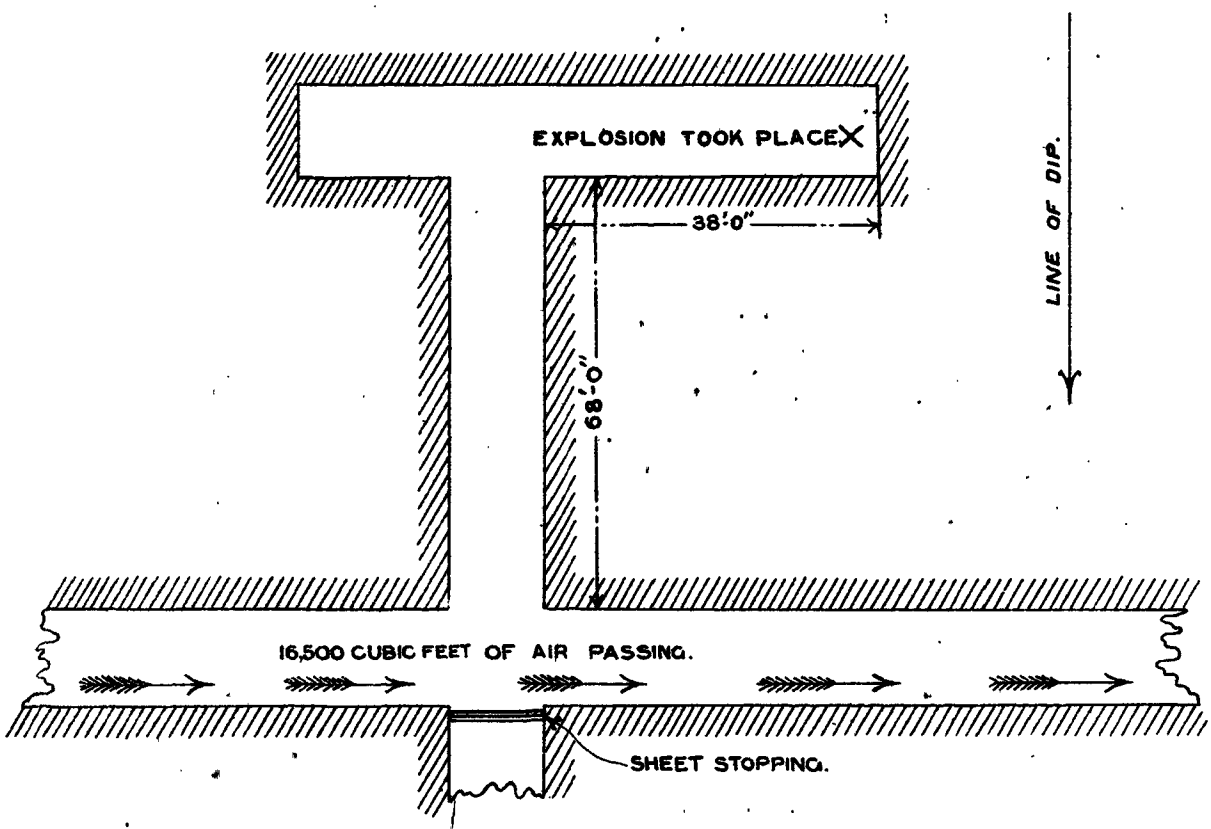


No. 113 E., Chief Inspector of Mines.—Mar. 07.—1,500

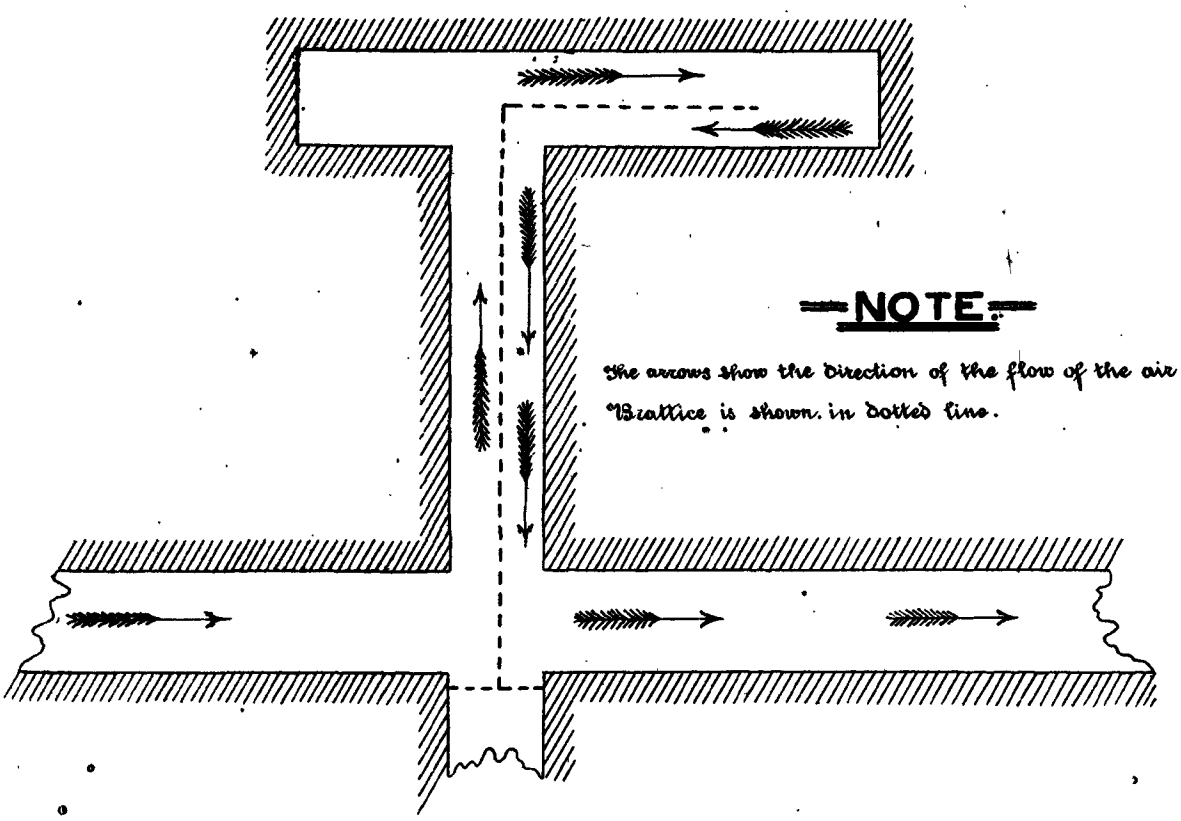
Direct. S. I. O., Calcutta.

—SKETCH ILLUSTRATING ACCIDENT—

—AT SODEPUR COAL MINE.—



SKETCH OF THE PLACE AT THE TIME OF ACCIDENT.



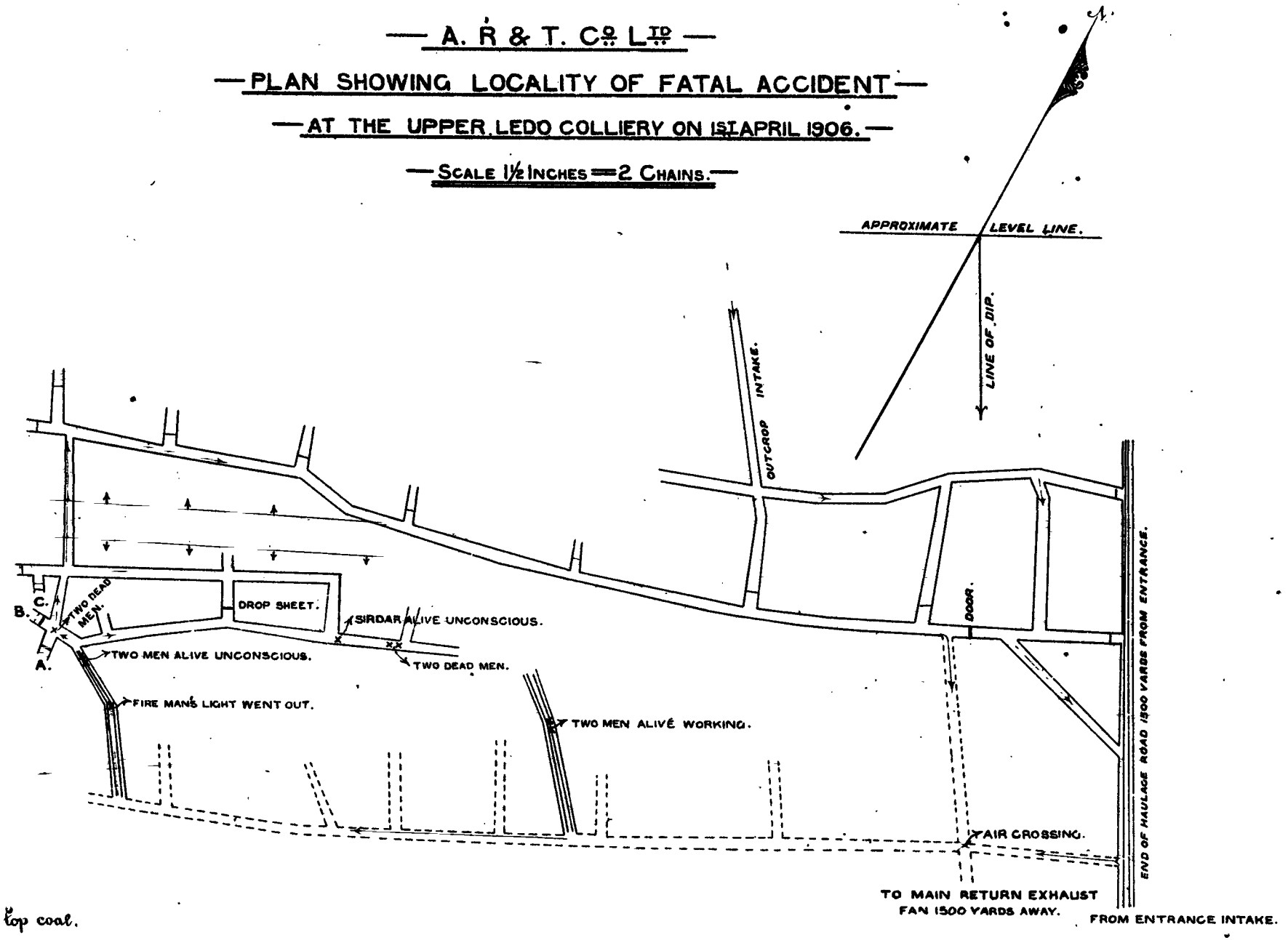
SKETCH SHOWING A VERY SIMPLE ARRANGEMENT OF BRATTICING WHICH WOULD HAVE PREVENTED THE GAS ACCUMULATING.

— A. R & T. Co. Ltd —

— PLAN SHOWING LOCALITY OF FATAL ACCIDENT —

— AT THE UPPER LEDO COLLIERY ON 1ST APRIL 1906. —

— Scale 1½ Inches = 2 Chains. —



REFERENCES.

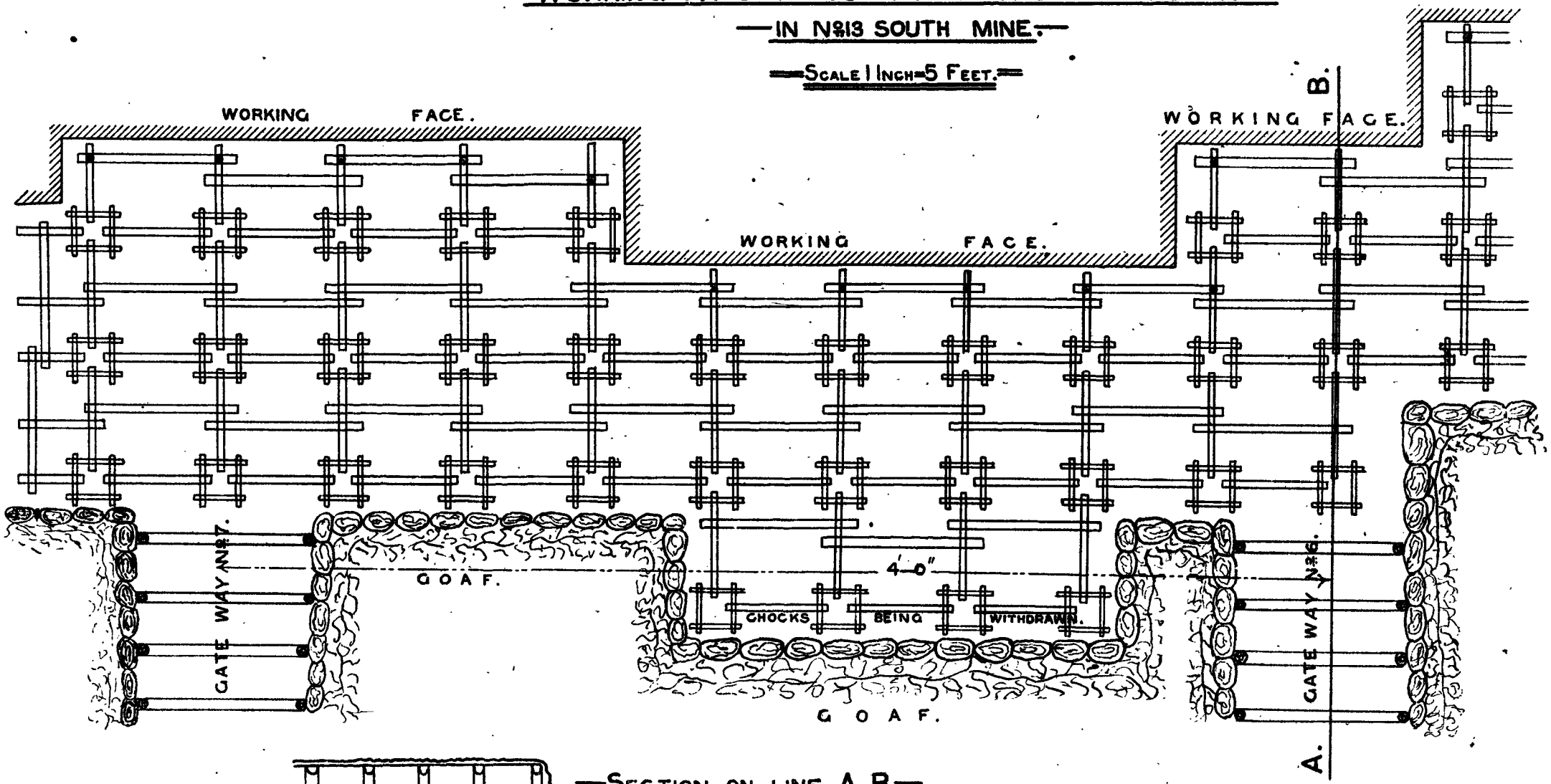
A. B. C. are the three fire dams.
Masonry dams shown red.
The galleries shown dotted are in the top coal.
The cross measure drifts into the bottom coal shown shaded.
The arrows show the direction of the air current.

DANDOTE COLLIERY.

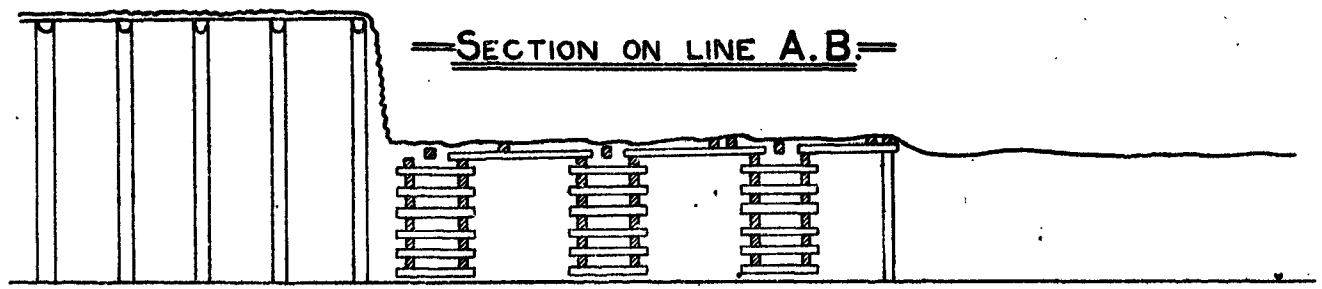
— WORKING FACE THROUGH Nº6 WEST CROSS GATE. —

— IN Nº13 SOUTH MINE. —

— SCALE 1 INCH = 5 FEET. —



— SECTION ON LINE A.B. —



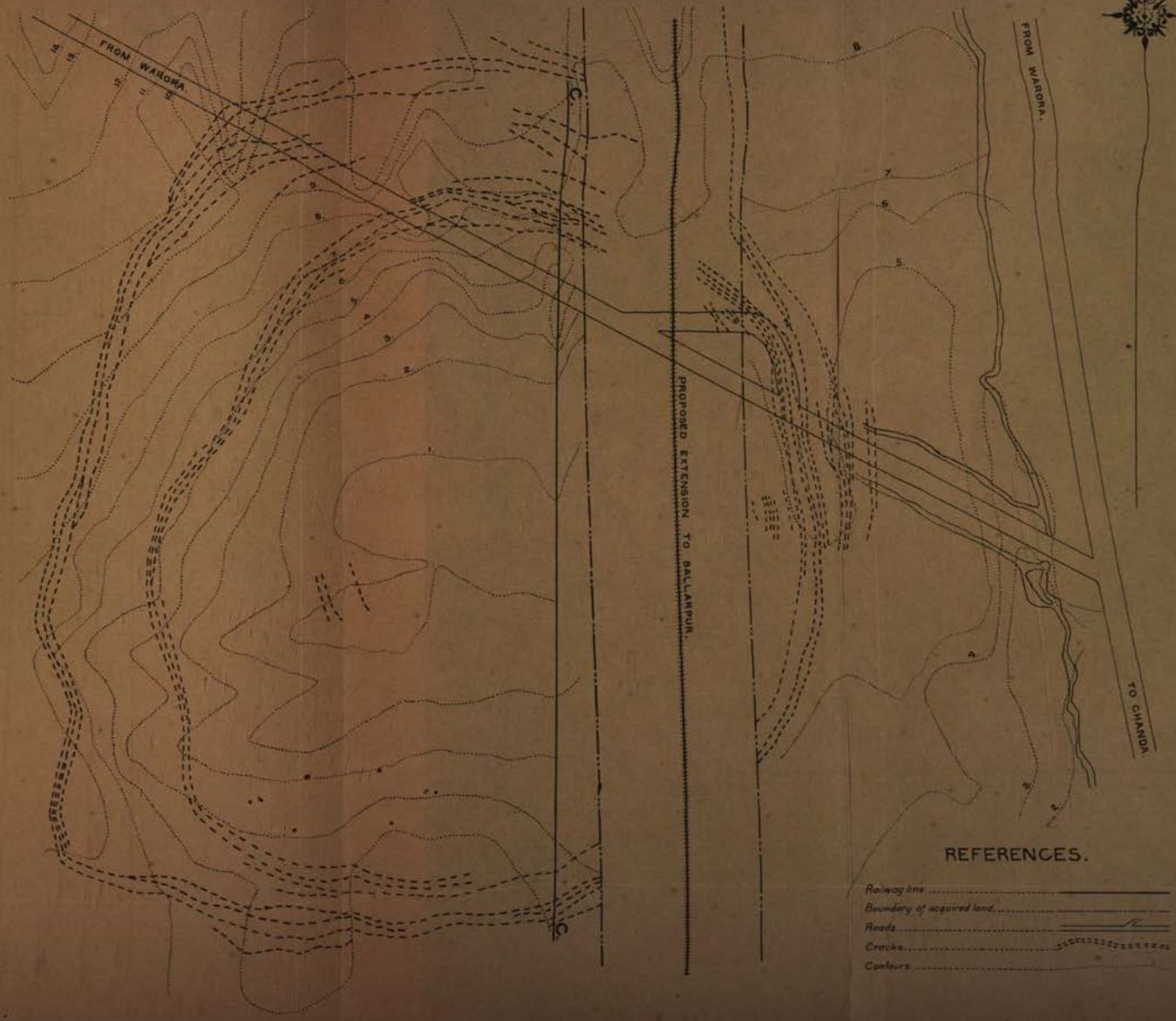
PLAN

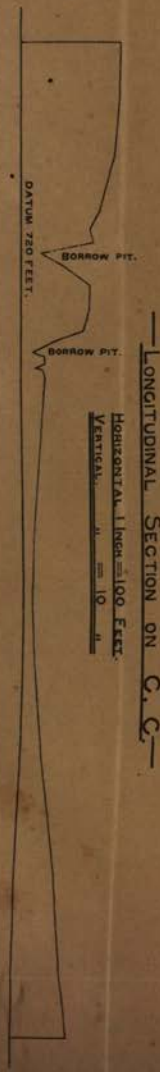
—SHOWING AREA AFFECTED BY—

—THE SUBSIDENCE AT WARORA COLLIERY.—

—ON MARCH 28TH 1906.—

—SCALE 1 INCH = 100 FEET.—





—LONGITUDINAL SECTION ON C. C'.—

HORIZONTAL 1 INCH = 100 FEET.
VERTICAL " = 10 "

REFERENCES.

Railway line
Boundary of acquired land
Roads
Cracks
Contours

PLAN

SHOWING THE WORKINGS IN SEAMS Nos. 2 & 3

BENEATH THE SUBSIDED AREA.

SCALE 1 INCH = 100 FEET.



Note —

Workings on No 2 Seam shown in black

Workings on No 3 Seam shown in red

Department of Mines, India.

REPORT

OF THE

CHIEF INSPECTOR OF MINES IN INDIA

Under the Indian Mines Act (VIII of 1901)

FOR THE

YEAR ENDING 31ST DECEMBER

1907

BY

J. R. R. WILSON, M.I.C.E., F.G.S.,
Chief Inspector of Mines in India.



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1908

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FROM

J. R. R. WILSON, ESQ., M.I.C.E., F.G.S.,
Chief Inspector of Mines in India.

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
DEPARTMENT OF COMMERCE AND INDUSTRY.

Dated Calcutta, 1st June 1908.

SIR,

I have the honour to submit the report upon the inspection of mines in British India for the year ending 31st December 1907.

EXPLANATORY INTRODUCTION.

My services having been lent to the Government of India by the Imperial Government, I took charge as Chief Inspector of Mines in India only on 8th January this year. This is therefore a report of work associated with my predecessor Mr. W. H. Pickering, who gave over charge of the Department on 4th September 1907 and returned to England to resume the responsibility of the important inspection district of Yorkshire and Lincolnshire.

Though I have been but a few months in India, the time has been long enough for me to be assured that Mr. Pickering was held in the highest esteem wherever his duties carried him, and he has left the impress of his work and his methods of careful organisation on every hand.

During the four months' interregnum, the Department was in charge of Mr. James Grundy, who has on more than one occasion officiated in this capacity, and whose long services with the Government of India will have terminated before this report is in print.

To prevent misconception, it seems necessary to explain that this is a report relating entirely to the administration of the Indian Mines Act, 1901, and is not a complete statistical review of Indian mining and analogous industries.

No official publication embodying such statistics is at present issued for India, but a review of the mineral production of India was published in 1905 by the Director of the Geological Survey of India for the six years ending 31st December 1903. In future this will appear as a Quinquennial Review. Some statistics relating to mines and minerals appear in the "Financial and Commercial Statistics of British India" published annually by the Director-General of Commercial Intelligence and appear about 12 months after the year to which they relate; and statistics of output of minerals beginning with the year 1904 are also given in the "Records of the Geological Survey of India." Figures for Mysore, where most of the Indian gold is raised, are given in the Report of the Chief Inspector of that Native State, and mineral statistics may also be found in the administrative reports of the various presidencies, provinces and states of India.

This year, for the first time, the Chief Inspector of Mines has been responsible for the collection of the returns for mines under the Act. This will, it is believed, make the statistics of the mines regulated by the Indian Mines Act, 1901, complete and trustworthy and allow a much earlier issue of this report than hitherto.

In some of the Mines Department reports previous to the year 1904 a few statistical tables relating to mines in Native States, and to workings not regulated by the Act, were given, but as it is not possible to obtain accurate figures in time for the date prescribed for the issue of this report, they have been again omitted.

It should be remembered in reading the statistics that there must be a considerable output from quarries which are under 20 feet deep; and, owing to the exclusion of such places from the scope of the Mines Act, these figures should not be regarded as a complete index to the productive mineral wealth of the country.

The report is divided into five sections, *viz.* :—

Section I.—Persons employed.
„ II.—Output of mineral.
„ III.—Accidents.
„ IV.—Prosecution, discipline and additions to the Act.
„ V.—General Remarks.

Section I.—Persons employed.

During the year 1907 the average number of persons working in and about mines regulated by the Indian Mines Act, was 151,983, of whom 98,824 worked underground and 53,159 on the surface; 96,769 of the persons were adult males, 49,116 adult females and 6,098 children under 12 years of age. Compared with the preceding year an increase of 18 per cent. or of 23,317 workers is shown.

The ratio of increase is slightly greater than in the preceding year and exhibits a very satisfactory state of progress. The figures undoubtedly would have been much larger, had the supply of labour been equal to the demand.

There is every sign that the industry is extending, and the labour difficulty will probably soon become acute.

It apparently takes very little to frighten the native worker away from the mine, and it will become increasingly important for mine managers to study the prejudices and customs of those under their charge.

The material at hand is very unformed; labour is not applied to the best advantage; the miner in his working place tears off the coal by sheer force, whereas he might be trained to considerably increase his output by the exercise of skill.

As has been repeatedly pointed out, the industry is still in its infancy, and it requires no great prophetic power to discern that if success is not to lag behind the energy put into the undertakings, supervision must not only be more constant, but also more efficient

---

Section II.—Output of mineral.

A glance at the tables given in Appendix II will show that there has been a large increase in the output of coal and manganese raised from mines regulated by the Indian Mines Act and a slight decrease in mica, gems and salt. The percentage of increase are:—Coal 15·51, manganese ore 47.

COAL.

The continued increase of coal must be very gratifying to those associated with the commercial aspects of the industry; nearly 1½ million tons more than the preceding year having been raised.

The output was 10,526,468 tons as compared with 9,112,663 in 1906, an increase of 15·51 per cent. Of this 9,993,348 tons or 94·93 per cent. were raised in Bengal, exceeding the output of the preceding year by 1,375,528 tons.

Reference to table 8 in Appendix II will show that the remarkable expansion of the output has enabled India to easily maintain her position at the head of

the coal producing dependencies of the British Empire. If the output from Native States is added India's lead is still more striking.

A comparison with last year's figures will show that the principal increase comes from the Jharia coal-field where the output has gone up over one million tons; and that of Burdwan over 200,000 tons. Pench Valley in the Central Provinces has more than doubled its output, while Burma, which was more or less in the experimental stage, has ceased to produce any coal.

The coal trade of Bengal continued extremely active during the year and as the demand for coal was greater than the supply, high prices were maintained. Many complaints have been made of the difficulty of despatching the output, owing to the irregular and inadequate supply of wagons.

MICA.

The output of mica remains practically the same as last year; although Hazaribagh has materially increased its output, that of Madras has fallen to an equal amount.

MANGANESE ORE.

This valuable commodity shows another substantial and gratifying increase, having risen from 436,442 tons in 1906 to 642,082 tons last year. Of this amount over 496,000 tons come from the Central Provinces, which has increased its output by 170,000 tons. The known manganese deposits of this part of India are found in what is called the Nagpur-Balaghat area, comprising the districts of Chhindwara, Nagpur, Bhandara and Balaghat. This tract of country contains some 3,500 square miles. Although the area is surrounded on three sides, and will in the near future be completely surrounded by main railway lines, few of the mines are provided with direct access to these lines, and some of them are as much as 35 miles distant from them. This drawback has been to some extent mitigated by the enterprise of one of the Mining Companies working within the field. This Company has laid down two narrow gauge tram lines starting from different points on the main line to the south and penetrating to distances of 12 and 30 miles, respectively, within the mining area.

The ore of manganese which is mined in the Central Provinces consists of an intimate mixture of braunite and psilomelane. It is steel grey in colour of fine grain and usually very hard and tough. This latter property is a very valuable one as the mineral has to endure a lengthy transport and many changes of bulk before reaching its destination. Chemically the ore is one of the richest and purest mined in the world. The percentage of manganese varies from 50 to 55 whilst the phosphorous content is low.

The mining of manganese ore in the Central Provinces was first undertaken in the year 1899, when operations were commenced in the Nagpur district. In the following year 35,356 tons of ore were raised, and with the opening out of other deposits in the Bhandara, Balaghat and Chhindwara districts a practically continuous expansion of output has resulted.

The bulk of the ore which up to date has been mined in the field is of the kind known as "boulder ore". This forms the capping of most of the ore beds and has been derived from the disintegration of the bed *in situ*.

The slopes of the hills containing ore beds are covered by enormous deposits of this nature, varying in thickness from a few to as many as twenty feet.

As a rule the boulders vary from the size of a cricket ball to that of a man's head, but in some cases as at Chickla masses of from 50 to 70 tons weight are found. The majority of the small producers are working on this class of deposit.

From ten to fifteen thousand coolies are employed in the Central Provinces manganese mines. There is no scarcity of labour, but owing to the large number of recently opened manganese and coal mines, and the commencement of work upon a large irrigation project, the rates of wages have advanced fully fifty per cent. within recent years.

For a complete account of the mineralogy and geology of the Central Provinces ores reference may be made to a very able and comprehensive paper on "Manganese in India" by Mr. L. L. Fermor, Transactions, Mining and Geological Institute of India, Vol. I, Pt. 2.

GEMS.

The output of gems from Burma has decreased from 324,410 carats in 1906 to 296,125. The output is entirely from the Mogok mines of the Burma Ruby Mines, Limited. This is the only Company working on a large scale, but there are very numerous mines and washings in the Mogok district worked by Burmans who have hereditary rights. The native worked mines are excluded from the scope of the Indian Mines Act.

GOLD.

In last year's report there was no output to record, but in 1907 4,017 ounces of gold were mined in the Dharwar gold fields.

Work was also carried on in the Nilgiris and Anantapur districts but no ore was crushed during the year.

During the year my predecessor met Messrs. John Taylor & Sons' (Dharwar) Committee at Kabulayatkatti and discussed with them matters affecting the general welfare of the goldfield. The sanitary arrangements of the villages within the boundaries of the mines were considered to be quite satisfactory. They are supervised by a medical officer who has a qualified assistant and a staff of sanitary inspectors. Every hut is visited daily and the lines are kept scrupulously clean by sweepers employed by the mine owners.

The Wader village just outside the lines was, however, in a most deplorable condition as regards sanitation. This was viewed with grave concern by the Committee; but since that time the encampment has fortunately been broken up.

OTHER MINERALS.

A considerable increase in limestone is shown while the output of salt has slightly lowered.

The copper mines in the Central Provinces have not yet reached the producing stage.

Burma has produced 272 cwts. of tin and Baluchistan has worked 771,206 cwts. of chromite during 1907.

Section III.—Accidents.

GENERAL REMARKS.

During the year 1907, at mines regulated by the Indian Mines Act, 1901, there were 105 fatal accidents involving the loss of 122 lives, being an increase of 16 over last year's figure. The reason of the increase is due, as stated in last year's report, to the expansion and activity of the mining industry and to the increasingly difficult and dangerous conditions of mining work.

Of the persons killed 109 were males and 13 females. In addition to these deaths, fatal accidents to 12 persons who were not employed at the mines were reported. A list of these appears in Appendix I and reasons are given for their exclusion from the statistical tables.

The deaths occurring in each mineral working were as follows:—89 in coal; 13 in mica; 4 in manganese; 12 in gold; 3 in ruby; and 1 in salt mines.

Of the persons killed 5 lost their lives by explosions of fire-damp; 57 by falls of roof and side; 21 in shafts; 11 by explosives; 10 by haulage; 6 by other accidents below ground, and 9 on the surface.

The death-rate per 1,000 persons employed works out to ·80, being a decrease compared with the figure of ·82 for the preceding year which is very satisfactory.

Each fatal accident is briefly described in Appendix I but the following additional remarks and explanations are necessary.

EXPLOSIONS OF FIRE-DAMP.

Happily, India has so far escaped any great calamity from explosions of fire-damp, but during the year there were three accidents which resulted in the death of five persons. They each happened on a Monday morning, and all might have been avoided by care and forethought.

As was pointed out last year, explosive gas is certain to be far more troublesome in the near future when the workings will have reached a greater depth from the surface; and no pains must be spared to make those whose duty it is to examine the mine and safeguard the lives of the workpeople familiar with the properties of this subtle foe.

Some of the coals undoubtedly produce fine dust, and, with the improved ventilating currents, and increased speed of the newer methods of haulage, this factor will have to be taken into consideration.

In many mines with unworked pillars, the galleries cover a large area, and in these, away from the direct current of air, dust may steadily settle and await the time when some concussion, caused either by a blown out shot or slight explosion of fire-damp, may arouse this latent power and repeat the experiences which have been gathered at such a tremendous cost in older mining countries.

The details of the three explosions which occurred are as follows:—No. 1 in the list—This happened at No. 6 Pit, at the New Beerbhum Coal Company's Borrea mine in No. 4 seam. The manager states that fire-damp had never previously been seen in this pit. However, the two men on going to their working place in a six feet square gallery found some fire-damp with their naked lights near the coal face and it exploded, with fatal results in one case.

A properly directed current of air would have prevented such a result.

No. 2 in the list took place at No. 5 Pit at the Equitable Coal Company's Dishargarh coal mine in the Dishargarh seam. The place had not been worked for thirteen hours, and the evidence seems to show that it had not been properly examined in the meantime. Deceased was working in a gallery, and although the seam is 13 feet thick, owing to a length of floor coal being left on, his working place was only 5 feet high.

Owing to the fact that the face of the coal was 28 feet beyond the current of fresh air, there was nothing to remove any accumulation of gas that might occur. Apparently the first time the deceased had occasion to lift his open lamp near the roof some fire-damp exploded and burnt him with fatal results.

The officials examine the mine with safety lamps, and it is always difficult to disprove a statement that any particular part of a mine was so examined.

As the Inspector investigating the accident pointed out, the sirdars should be compelled to leave some mark in each working place which will show that they have actually visited it.

No. 3 in the list happened at the Bengal Coal Company's Laikdih mine in the Laikdih seam. About 6-30 that morning two shots of dynamite were fired in the roof in a rise gallery at the junction of two roads. As a result, a few feet of the bratticing which directed the air current was broken down. Before this was repaired, fire-damp evidently collected near the roof higher up the gallery at a point where some roof coal 12 inches thick had been left on. At 9-30 A.M. three men went to work at this roof coal, and it is more than probable that one of them placed a naked light so near the roof that it ignited the gas, resulting in an explosion which ultimately caused their deaths.

This is a mine in which safety lamps of a good type are used throughout the whole of the workings; the lock of the lamp however is an ordinary screw which is never very effective and easily lends itself to being tampered with.

There is no actual proof as to how the gas ignited in this case, but very little doubt really exists that one of the men exposed the flame by taking off the lamp bottom. One lamp was found with a loose screw, and another without any screw-lock whatever.

Safety lamps become such only in name unless they are carefully used; and in all cases, before being taken into the workings, they should be examined by some one appointed for the purpose.

Where the necessity of using bratticing is recognised, it should also appeal to an official that when this bratticing has become deranged, it is of special

importance to carefully examine the place afterwards. Forty feet of brattice was blown down by the explosion, and there were present in this case all the elements of a very serious disaster.

FALLS OF ROOF AND SIDE.

Accidents from this cause resulted in the death of 57 persons, an increase of 6 upon the previous year; 36 of the deaths occurring in coal mines.

Twenty-nine of the deaths were from falls of roof, and twenty-eight from falls of side.

No. 4 in the list.—This took place at Babu R. B. Chatterji's Chota Dhemo coal mine, and was due to lack of proper supervision. Deceased was loading coal in his working place beneath some roof coal which was overhanging for 5½ feet, when the latter fell upon him: his left leg was so badly mutilated, and he was otherwise so bruised, that he died the same day. The sirdar appears to have told a mistry to set any props that might be required, but gave no definite instructions about either supporting or getting down the roof in this place. His inspection should have shown him the necessity of having the roof coal taken down, and he ought to have given instructions accordingly.

No. 28 in the list happened at the Khas Jharia Colliery Company's Khas Jharia mine in a seam which is 26 feet thick. Deceased was ordered to cut down some roof coal and had apparently been at work for three hours when some of it came away suddenly and injured him so severely that he died in a few minutes.

The place was so high that he had to stand upon a stool, and doubtless he was not able to perceive any signs of fracture or detect any movement in time to get out of danger.

The fall was unusual in that it assumed the shape of an inverted basin about 8 feet diameter at the base, and 2 feet 9 inches high. These "potholes" as they are often called in English mining are most difficult to discover, even by careful sounding.

If the roof coal has to be taken down, it would be much safer to do so before the floor coal is taken up, when the miners would not only have something firm to stand upon, but could more easily see what they are doing.

No. 29 in the list happened at the Central Kurkend Coal Company's Central Kurkend mine, and is a case where a miner worked contrary to orders, and by so doing was the cause of his wife being killed.

This man had left his proper working place, and, according to thes irdar in charge, had gone beyond a fence and was getting coal off another pillar. The sirdar says he ordered him to come to the proper side of the fence, as he noticed a slip in the roof running along the side of the gallery.

The man did not obey, and before the sirdar had gone many yards away, some roof coal measuring, in an irregular shape, 13 feet long by 12 feet wide and 4 feet thick, fell out up to the slip and injured the man and unfortunately killed the woman.

If the sirdar did know of the slip, and especially as the man was breaking the rules by being beyond a fence, he ought to have insisted upon the man at once withdrawing.

Supervision can never be very effective without discipline, and the sooner those officials who are brought most closely into contact with the worker appreciate this the better.

No. 30 in the list occurred at the Jharia Colliery Company's Bhaga mine.

The pillars were being extracted in a 24 feet seam, and some powder shots had brought down a quantity of coal from the corner of one pillar. The deceased men were supposed to be filling out this coal. After the accident it was found that a large quantity of coal had fallen from a pillar at the opposite side of the gallery to that from which the coal was blown down, and two of the five men working were caught by it and killed.

It is possible that the former pillar was somewhat crushed by weight, and perhaps the blasting may have further shaken the coal; but the most probable solution is that the deceased men were trying to get down some coal from the wrong pillar, and it came away suddenly and caught them. When visited by an official at 2 P.M., all was in order and the accident happened at 3 o'clock.

As soon as it was known, the place was visited by the officials, but the bodies had already been removed from under the coal by the other workmen. A lamp however was found beneath the new fall.

The evidence in this case is most difficult to obtain. Of the three surviving men, one was not close at hand at the moment and immediately he knew of the accident he went out of the mine with the two women who assisted them.

Another man disappeared altogether, and the third, who either could not or would not give any clear explanation of the occurrence, died two days later from excessive drinking.

No. 31 in the list happened at the Acme Mica Company's Chirki mine, Kodarma. The mine had originally been worked by shafts, but some new owners were opening it out as a quarry. Thirty-four feet down the quarry a trench was excavated 9 feet wide at the top. While ten men were at work in the trench, a mass of material from the quarry side some 20 feet above the trench suddenly fell upon them. Five were got out alive, but the other five were unfortunately suffocated. Altogether about 2,000 cubic feet of material, consisting of soft red gravel and soft decomposed granite came away—the fall measuring 25 feet long.

One of the owners was standing by and saw the material slide off and shouted out to warn the men, but they had not time to get out of the trench.

The side of the quarry was nearly vertical and to this the fall is due. It ought to have been sloped back in steps.

This was pointed out to the owners, who immediately recognised the necessity of it and agreed at once to have it done.

No. 34 in the list happened at the Central India Mining Company's Miragpur manganese mine. The deceased man had been set to work near the top of one side of a cutting but had taken it upon himself to work on the boulders at the opposite side where he could more easily get some ore.

He had been prising off some ore from the slightly overhanging side of the cutting which was only 7 feet high when about 2 feet of the upper portion fell over and killed him on the spot.

This upper portion consisted of a thin ridge which had been left at the edge of the cutting for the purposes of measurement; it ought not to have been left in a dangerous condition.

No. 45 in the list happened at Messrs. J. L. Banerji & Co.'s New Surataur coal mine and was the distinct result of one of the many cases of pillar robbing. The deceased was found beneath a large piece of coal, measuring 14 feet by 14 feet by 2 feet 6 inches, which had come off the side of a pillar. His pick was by him. He had on another occasion been fined for being at this particular place which was fenced off. He was so seriously bruised by the fall that he died in the mine.

No. 47 in the list happened at the Kuordih Coal Company's Kuordih mine. Two young men were at work as miners for the first time in this mine, and it seems doubtful that they had had any previous experience of coal-mining They were at the time actually not at work in the place intended, if the contractor's sirdar can be relied on.

They had undercut some coal as far as a joint and one of them was wedging it down. Owing to several joints a piece about 1 ton in weight probably came away more quickly than they anticipated and in falling it struck the unfortunate man and nearly tore his arm off.

The arm was amputated at the Asansol Hospital but the man appears to have been removed to his home, two days' journey by road, before he had sufficient strength, and he died on the way. The men had been at work six hours when the accident happened. With proper supervision it would be impossible for men to work for hours in the wrong part of the mine.

SHAFT ACCIDENTS.

The number of accidents in shafts last year was 21 or one more than the previous year. The number is too great; but the addition of only one is not unsatisfactory when it is remembered that much more coal is being drawn from shafts than formerly.

Winding ropes require the greatest care and attention, possibly more so than any part of mining equipment.

Only ropes specially made for the purpose should be used for winding and whenever a defect is discovered, it should be remedied without delay. Recapping should take place at stated intervals, three or four times a year, even if the rope appears in first class condition. It affords an opportunity for seeing the internal condition of the rope; it renews that part of the apparatus which is subjected to the greatest strain and it also alters the position of the rope upon the winding pullies where stresses are set up and wear takes place which are calculated to shorten the life of the rope.

I would utter a word of warning to all concerned in providing ropes for winding shafts. A length cut off a rope ordered and manufactured for the purposes of haulage is not only a very unsatisfactory proceeding, but involves great risk, and those responsible for such a practice may have the truth brought home to them in a very unpalatable way.

In No. 52 in the list a $\frac{3}{4}$ inch crucible steel rope was used as a winding rope in a bucket pit with an ascending and descending rope. On this occasion the full bucket had just reached the surface when the rope broke and the bucket dropped to the bottom of the shaft. The deceased had come to the pit bottom during the absence of the onsetter and signalled the empty bucket down; unfortunately the full one came down and fell upon him and killed him.

Examination of this rope disclosed the fact that it had fractured just within the cap where there was evidence of some corrosion and undoubtedly two days previously three broken wires had been detected. The management however thought it was perfectly safe for the load which was only 12 cwts. at the most, and had decided to recap it on the following Sunday.

These ropes were not used for raising or lowering persons or the responsibility upon the officials would have been very great, but in any case a grave error of judgment was committed.

In No. 54 in the list which took place at the Bengal Coal Company's Rajhara mine a pump was being refixed at the bottom of one of the pits. Yar Mahomed was the fitter in charge of the work. To save himself the trouble of walking down the incline he detained coolies and ordered them to lower him by means of a winch. The winch had been taken to the pit to be used there after necessary repairs were made to it. It was not fixed and the rope on the barrel had been used for haulage. It was badly worn and seriously corroded internally. A very casual examination would have shown that it was unfit for use. This man was accustomed to examine ropes and machinery at the colliery but nevertheless he was foolish enough to trust himself on this very unsafe rope worked by an unfixed winch which had no catch and was out of repair.

He was safely lowered but when he was being drawn up the rope broke about 15 feet from the top of the shaft and he fell to the bottom striking the pump khalasi. Both men were killed on the spot. The rope was $\frac{7}{8}$ inch diameter and had been originally used for haulage. It had been on the winch a long time without being used. It had become badly corroded and it was not intended to be used at all. A new galvanised wire rope was provided at the pit so that persons could be raised or lowered with coolies. It seems extraordinary that a man who was an experienced fitter should have trusted his life on a rope, which was obviously unsafe, to save himself the trouble of walking a few hundred yards.

No. 56 in the list which happened at the Indian Collieries Syndicate's Jamadoba mine is a case where a pump was being raised in a shaft partly filled with water by means of two ropes each attached to a winch and the lifting power obtained by means of pulley blocks.

The blocks were attached to the ropes by means of clamps, which required moving as the ropes were hauled in.

Before a clamp was taken off to readjust the position of the blocks. another clamp was firmly fixed to hold the rope tight and maintain the weight.

At the time of the accident, the deceased, who was a fitter, was altering the clamps upon one rope and had apparently not satisfied himself that the second pair which would then carry the weight were tight. While doing this the rope slipped through the second pair and so threw the weight of the pump and three ranges of pipes 275 feet long upon the other rope.

The strain was too great for it and the weakest point of the connection being a hook, this broke and the whole of the weight rapidly slipped away—

the pump dropping to the bottom of the shaft some 50 feet below. Unfortunately the deceased being close to the edge of the shaft was caught by the rope near to him and dragged into the pit and killed.

In operations of this kind where heavy weights have to be lifted by two separate sets of tackle which require adjustment, one set alone must be capable of sustaining the weight, for to attempt to do otherwise is to court disaster as in this case.

No. 57 in the list is an illustration of the unnecessary risks men will run in the performance of their work.

Deceased had released a small pulley from the top cross beam of the head gear by standing at the junction of two diagonal iron cross ties. He was about to come down when he slipped and fell into the shaft below and was drowned.

If a ladder had been used instead of attempting an acrobatic performance, the accident would not have happened.

The manager in this case attributed the occurrence very largely to the fact that it was Thursday, which was an unlucky day.

No. 68 in the list is of interest as showing the necessity for special rules for sinking pits. A few men were working in the bottom of a sinking pit, 230 feet deep, when two or more stones fell from the sides and from such a height that they killed one man and injured another. This shaft was entirely unlined and the rules were not infringed, as under General Rule 2(*g*), the shaft was examined once a week. By a coincidence the shaft was stated to have been examined just before the accident, and even after it, the officials state that they could not discover where the stones had come from.

Every sinking pit should be examined at the very least once a day and when without lining the examination should be very thorough.

No. 69 in the list illustrates a type of accident which I have already seen repeated since I arrived in this country. A cage holding nine men and women was being lowered from the pit bank level at the surface when in passing the ground landing, 24 feet below, it caught at one end against the edge of the landing where there was only 2½″ of clearance and tilted up. One man fell out to the bottom of the shaft 300 feet below and was killed.

In this case the conductors were wire rope with two to each cage and on the outside of the cage only.

Provision should be made for having some form of rigid guides past all landings of this kind.

EXPLOSIVES.

There were 11 deaths due to explosives during the year, two only being in sinking pits. In one of these, No. 72 in the list, the accident was due to striking a cartridge of dynamite in dressing the sides of the shaft.

The cartridge may have been left at the bottom of a hole, having failed to detonate when the remainder of the charge had exploded or it may have been the only cartridge put into a certain hole which missfired. Several holes were fired at one time and it was admitted that there were seven missfires and then two missfires in refiring the seven. With proper care and materials this wholesale missfiring should not occur.

At a mica mine, No. 75 in the list, three men were sitting in a shed on the surface where they had about 6 lbs. of country powder in an open iron vessel.

They were smoking and it is hardly surprising that the powder exploded and they were all injured, one so seriously that he died two days afterwards.

Proper closed boxes were to be provided after this occurrence.

ACCIDENTS BY WATER.

No. 82 in the list happened at the Sitarampur Coal Company's Narsamuda mine and is unusual from the fact that a boy and girl were scalded so severely by hot water in the mine that they both died on the following day.

These children were employed bailing out water from a working place in a gallery during the night time and were working alone.

About half past six o'clock in the morning as the sirdar was approaching a steam pump he heard a scream, and on reaching the place found both the

children in a shallow sump into which the pump exhausted. The boy had fallen in first and the girl after in trying to get him out. It appears that they had been idling and hearing the sirdar coming were anxious to get out of his way; they went past the pump and a bamboo fence and unfortunately fell into the hot water.

The pump attendant was just returning to the pump, having been clearing mud away from the suction pipe.

It is very undesirable for young children to be set to work by themselves in a mine, and they certainly should not be employed in this way during the night time.

No. 83 in the list happened at the New Manbhum Coal Company's Ganzlatar mine. It was a type of accident that has undoubtedly occurred before and will most certainly happen again unless mine owners take some common sense precautions.

It is only necessary to walk along the outcrops of some of the coal seams near a river bed to gather what will happen in the rainy season. In this case three men quite unauthorized went into an incline on a Sunday night to fill dust as they knew there were empty tubs available. The survivor said it was raining hard and they might as well be in the mine as anywhere. They had worked for some time and then gone to sleep. They were rudely awakened by feeling water about them and found themselves in the dark. One man reached the bottom of a shaft and his shouts attracted the attention of the manager, who had been sent for as the river running close to the inclines was rising at a rapid rate. Before the man was drawn up the water had risen 9 feet in the pit. He did not know where his companions had gone to; and they were unfortunately both drowned.

The Katree river runs within some 50 feet of the first incline, the two being separated by a narrow bund 10 feet high, made of soft earth. As the water in the river rose it undermined the bund and also worked around the end of it and rushed down the inclines.

It was extremely fortunate that no more persons were in the mine at the time.

Discipline must be a very uncertain quantity when men can wander into a mine like this without any one knowing anything about it.

In last year's report my predecessor drew the attention of coal owners to the danger of mines becoming water-logged. Apart from the danger to life, they are not only a source of loss to the owner involving a sacrifice of coal and heavy pumping charges, but, where the water is allowed to remain, they become a standing menace to any workings to the dip.

A sketch of the place of accident is given at the end of the Report.

SUFFOCATION BY GASES.

There were two accidents due to this cause during the year. One happened at a coal mine in Baluchistan, No. 84 in the list. Four men were working in a level within some 20 feet of old workings which had been pierced a day or two previously.

They began to feel faint and their lights went out. The man in charge ordered them to go away and they seem to have stampeded. One of them fell as the road was rising at an angle of 45° and before he could recover himself he became unconscious. When the other men recovered somewhat they went back but found their fellow workman was dead.

The men were apparently working out of the air current and doubtless some carbon dioxide gas slowly issued from the old works and filled up the low place in which they were working.

It is the old story of insufficient ventilation or the current of air not directed to where it was required.

The other case occurred while sinking a staple pit in the Standard Coal Company's Benahir mine, Jharia, No. 85 in the list. This pit was being sunk from one seam to another, and it had actually penetrated the coal in the lower seam.

No one had been down the shaft during the day and a sinker named Gope was lowered at 11 o'clock at night. As soon as he landed at the bottom his light went out. He shouted up for the lamp to be drawn out and relighted: this was done. The sirdar in charge of the gang made several attempts to

send a light down, but each time the light went out. It then seems to have occurred to him to call down to the man. He got no answer, but thinks he heard him breathing hard. He next came out of the mine and called the manager. The manager soon arrived and sent a light down once more. Although the pit was 34 feet deep, the light was extinguished when it had descended only 10 feet.

Water was thrown down for about an hour, then a descent could be made. Of course the poor man was dead.

It is strange that it did not occur to anyone in authority that carbon dioxide gas is formed in mines, especially in badly ventilated mines, and that its specific gravity causes it to flow to the lowest point.

This gas was doubtless steadily pouring into this pit when no one was there and nothing to cause the slighest current of air.

It may also have come from the seam at the bottom.

An official of some kind should have been the first to descend when a fresh shift of men was going in.

It is never safe to descend an unventilated pit without first trying it with a light, and a sinking pit like any other part of a mine should be efficiently ventilated.

This was an inexcusable loss of life.

HAULAGE ACCIDENTS.

There were ten deaths due to underground haulage accidents, one less than last year.

No. 89 in the list is another case of a person being in a main haulage road while the train was in motion. Four women were sitting at a junction in the road, when the assistant manager passed by. He says he told them as he always did, in such circumstances, to go away. Apparently they did not do so. A train of 4 tubs, two of them holding ashes for ballast, was being lowered down this road which dips at a rate of 1 in 12, when the coupling broke and allowed three of them to run amain.

They went at a rapid rate for some 375 feet, then became derailed and upset and caught one of the women killing her on the spot. The tub which broke and caused the runaway is made entirely of steel and consists of an underframe made of $\frac{3}{16}$" plate supporting a body which carries about 13 cwts. of coal. The coupling chain and hook is attached to the upper end of the steel frame by means of a plate with two rivets.

An examination of the edges of the broken plate showed that the material had become very coarsely crystalline and brittle, probably owing to the jarring which it had sustained while in daily use.

This method of attaching the coupling chain to the tub is most unsuitable. In this particular case the frame was weakened by two old rivet holes previously used for a different style of attachment. The type is being abandoned.

Greater familiarity with methods of underground haulage both on the part of officials and workpeople should obviate many of the accidents under this heading.

SURFACE ACCIDENTS.

There were nine deaths from surface accidents, being the same number as in the previous year.

In No. 99 in the list, some coolies had been lifting a mast with a hand crane and had stopped for food. One of them sat upon the crane handle and doubtless moved backwards and forwards.

At any rate the pawl slipped upon the ratchet and the weight caused the handle to revolve: in doing so it struck the man on the head and killed him.

The ratchet was found to be worn and quite unfit to be relied upon. A pipe, it seems, was usually used as a sprag but no one had put it in. A fitter who left the men shortly before ought to have seen that it was in.

No. 101 in the list, is a story that must have been told many times in the history of Indian coal mining. I venture to hope that the time has come

when such a description may cease to be chronicled and shall become a relic of the barbarous past.

It happened at Messrs. Agabeg Brothers' Jogta coal mine where No. 14 seam was being worked 30 feet in thickness. Here the coal was worked according to the usual custom, being cut up into pillars by galleries driven at right angles to each other. The roof above the seam is 4 feet thick of hard but jointy stone and above that rotten stone and earth. Both the coal and strata were broken up by partings, facings and joints. Some of the galleries were 20 feet wide and 30 feet high.

The sequence of events seems to have been as follows:—The high pillars were full of breaks and partings; very frequently coal broke away from them and was filled up and sent out of the mine. At other times the pillars became so dangerous that parts had to be pulled off and taken away. So the galleries became wider and the pillars thinner and less and less support was given to the roof.

The roof would then become strained and would slip at the joints, putting still more pressure upon the ever weakening pillars. On the day of the accident, warnings like this to a very serious degree had been given for some three hours but no one seems quite to have known what was about to happen. Two officials had just come out of the mine about 4 o'clock in the afternoon when no workpeople were in the mine, and as they reached the mouth of the incline a blast nearly carried them away. An area of surface ground measuring some 316 feet by 262 feet suddenly collapsed and carried with it four buildings.

In one were six men and two boys; all got out but one boy, and unfortunately his loss was not mentioned to the assistant manager who was at hand until next day. In another a girl 12 years old was lying ill. Both these children were killed.

The managing proprietor and the manager were both absent on this day, and the officials who were at the mine did not appear to have grasped what was the absolute consequence of their methods of working.

Section IV.—Prosecutions and additions to the Act.

(*a*) ADDITIONS TO THE ACT.

During the past year three important rules were added to the Act by Notification No. 10014-100, dated 4th December 1907. They were issued for the purpose of safeguarding railways. Under these rules the Owner, Agent or Manager of any mine is compelled to give notice whenever he intends to extend his mine workings either beneath the railway itself or any point within 50 yards of it.

Other Notifications No. 3952-36, dated 10th May 1907, and No. 7861-36, dated 19th September 1907, refer to a form for the Annual Return which has to be furnished to the Chief Inspector of Mines and to the District Magistrate, and the form which shall be used in notifying accidents, respectively. Copies of these Notifications will be found in Appendix IV.

(*b*) PROSECUTIONS.

In the report for last year only one prosecution was recorded and the judgment delivered in the case was printed in the Appendix for reference. An appeal was lodged, and the case heard by the Judge of Burdwan after the inspection report was printed. The appeal was dismissed.

In 1907 there were two prosecutions and both for failing to give notice of accidents, a fatal accident in one case and a serious accident which ultimately terminated fatally in the other. In the latter the manager of a coal mine was convicted under Section 22 (2) (*b*) of the Mines Act and fined 10 rupees.

In the former the manager of a mica mine was convicted under the same section of the Mines Act and fined 40 rupees.

Section V.—General Remarks.

UNDERGROUND FIRES AT CHARANPUR AND BANBAHAL COLLIERIES.

On the 29th March 1907 a serious fire, fortunately unattended by loss of life, broke out in the old workings of Messrs. Apcar & Co.'s Charanpur mine, Raniganj coalfield. The mine has been long established and more than 100 acres of the Sibpur seam (here 18 feet thick) have been cut up into rectangular pillars. There are 15 shafts, all connected underground, and their depth varies from 50 to 300 feet. The present chief working area covers about 45 acres and is served by Apcar and No. 18 pits. It is separated from the rest of the mine by an igneous dyke 40 feet in thickness. Four connections had been made through the dyke. The positions of the pits and dykes and the arrangement of the ventilation are shown on the plan given at the end of the report.

The fire originated in the old area at a point about 200 feet from the dyke. It is supposed to have been caused by the accidental ignition of a pile of tramway sleepers. The flames spread so rapidly that it was not possible to deal with the outbreak by other means than isolation. Pits Nos. 17, 19, and 21 became upcasts and vomited forth flames for several days to a height of 150 feet. It was at once recognized that the old area was doomed and efforts were concentrated upon the prevention of the spread of the flames to the new or Apcar pit area. After two days of very hard labour, temporary dams of sand and brick, 10 feet thick, were erected in the four openings through the dyke (a sketch of one of the dams is given at the end of the report). All men were then withdrawn from the pits, and the work of checking the fire by stopping the air inlets commenced. Some of the shafts were plugged up by throwing down earth from the surface, whilst others were scaffolded over so as to act as safety valves in the event of an air blast caused by a collapse of roof. Two days later a heavy fall took place and the air blast demolished the scaffolds, but failed to blow out the dams in the dyke openings. After the replacement of the scaffolds the work of reinforcing the temporary dams was commenced from the Apcar pit side This was done with firebrick and cement in sections, 5 feet thick. By the 10th of April permanent dams ten feet thick were completed, and on the following day the shafts in the old area were completely sealed by filling or by scaffolds. About a week after this a thermometer lowered through one of the scaffolds registered a temperature of 205° F. A month later it had fallen to 154° F., and since then there has been a gradual fall of temperature, the reading in March 1908 being under 100° F.

This serious fire will not have occurred in vain, if some of the lessons taught by it are learnt by the managers and colliery owners in India, and proper steps are taken to remedy the dangers.

An underground fire may be caused by spontaneous combustion; by the careless handling of lights; by electrical appliances; by shot firing; or by gas or dust explosions. The liability of fires originating from these causes will increase as the workings become more extensive. Fires are certain to occur and the question "how are they to be isolated or put out?" is a very pertinent one. The fact that the workings at Charanpur were divided into four main districts by dykes enabled the fire to be conquered. Without these natural damming places, the most strenuous efforts would not have saved Apcar pit.

At the same time it was most unfortunate that these natural barriers should not have been taken advantage of to more completely divide the mine.

A glance at the plan will show that these dykes were pierced in too many places, and the openings were much too large. The risk, the time and the expense would all have been lessened had the workings been laid out upon a more scientific plan.

In considering the inherent dangers of Indian coal-mining, it is necessary to clear our minds of any prejudices due to experience in other countries. The Indian conditions are very different from those which obtain in other coal-fields. The fire dangers only need to be considered in this report. The extraordinarily strong roof over the seams allows wide galleries to be driven to the full height of the very thick seams, and the practice has been to cut very

large coal areas into pillars by such galleries. If the pillars crush out or are burnt out, the roof will not fall until a very large area is unsupported. When the fall takes place, an air-blast is inevitable. Except in a few isolated mines, it has not been the practice to divide the workings into districts by leaving ribs of coal. In such conditions, the only damming places would be in the galleries, perhaps 20 feet high and 15 feet wide. A dam of such an area, unless of enormous thickness, would burst under the impact of an air-blast. In any case it would be impracticable to make gas-tight dams in such large galleries in a hurry. Therefore, the only alternative in the case of fire in many Indian collieries would be to stop the pit tops or fill up the shafts. The conditions at the tops of many shafts make fixing scaffolds very difficult, and filling the pits with earth is a very slow process where the insets are say 20 feet high. Shafts are very numerous and interconnected over large areas, in many cases there being no boundary ribs between mines worked by different owners. Thus, a fire might involve the closing of a group of collieries; and the closing might be permanent if falls extended to the surface. Fire will spread with marvellous rapidity in Indian coal mines because the small local falls of roof which do much to check the spread of fires in other countries are absent. When falls occur in a fire area they will produce air-blasts which will shoot burning gases in all directions, and extend the fire to distant workings. Fortunately provisions against these dangers can easily be made by dividing the areas into districts and panels with ribs of coal between each district and panel. All the galleries cut through the ribs should be small, say not more than 8 feet wide and 8 feet high, and dams should be put in them as soon as coal working in the district or panel is finished.

The principal lessons to be learnt from the fire may be summarised :—

(1) The importance of working coal in panels or districts which can be readily isolated from the rest of the mine.
(2) Pit insets to be made of a reasonably small size. Some are 20 feet high and 15 feet wide.
(3) The galleries to be made lower and narrower at places where ventilating stoppings are likely to be required.
(4) The strict prohibition of the use of torches or the lighting of fires underground.

Other important considerations are :—

(1) Managers being prepared to reverse the air-current at short notice.
(2) The advisability of increased supervision during the night shift.

This fire emphatically drew attention to the fact that none of the appliances, tools and materials required when fighting fire, gas, or water in collieries are kept at any of the mines in the Raniganj and Jharia coalfields, and that little reliance can be placed upon native subordinate officials in times of difficulty and danger. Coal-mining in Bengal is rapidly extending and becoming more strenuous. To elaborate the great increase in the dangers due to this would be to expound the obvious. The dangers are patent to every intelligent observer. If each colliery kept appliances it is certain they would in most instances be incomplete and not in order when required. The cheapest and most efficient plan would be to establish rescue stations at suitable centres in the coalfields where the appliances could be kept and where the managers could meet from time to time to learn their use. This would also help to establish that *esprit-de-corps* which induces managers at home to offer their services to neighbouring collieries in times of serious accidents.

The most suitable places for the stations would be Sanctoria, Charanpur, Jharia, and Sijua where the mining instructor gives his lectures. Store-rooms could be built near the lecture-rooms.

The account of this fire would be very incomplete, if mention were not made of the part played by the officers of this Department while efforts were being made to save the mine.

Mr. Simpson, the Inspector of Mines in charge of No. 3 Circle, was very quickly on the ground after the outbreak, and the operations which were so effective in preventing the total loss of the mine, were very largely due to his initiative. Mr. Pickering arrived at the mine two days later and immediately

threw himself very heartily into the work, treating it as though he was personally responsible for the success of the operations. Both these officers remained at the mine until the 12th April. Mr. Grundy and Mr. Adams were also there for a few days, each rendering all the assistance in his power.

It must be remembered that there were at one time as many as 200 men in the mine putting in the temporary dams.

Another fire which occurred at Babu Jagannath Marwari's Bunbehal mine, Raniganj coalfield unlike that just described, was neither due to the same causes nor so destructive to property.

The seam here is 14 feet thick and is worked by means of five shafts and one incline: two of the shafts, to the dip, are water-logged.

On Saturday the 13th July 1907 smoke was first seen on the surface issuing from the fracture of a subsidence, and three hours later smoke was visible in the air issuing from No. 3 Pit and incline. The next day large volumes of smoke poured from the fracture and from No. 1 shaft. Steps were then taken to close down the mine and fill the fractures. Nos. 1, 2, and 3 Pits and the incline were filled with earth so as to cover the galleries, and water from neighbouring tanks was lead through trenches into No. 6 Pit and into a fracture. By the 16th the smoke had ceased issuing from all the openings except from one cavity in the fracture. On the previous day a considerable area had subsided.

It appears that the pillars of coal had been weakened to such an extent that a creep quickly set in. There must also have been a considerable amount of dust accumulated in the old workings. Under the action of the creep and the admission of air through cavities caused by subsidence, coal which had been undergoing slow chemical decomposition, generating heat, received a stimulus by the addition of oxygen, and spontaneous combustion resulted.

Water was allowed to fill up the mine and put out the fire and also prevent further subsidence.

Cases have occurred during the year where subsidences have again been the means of allowing large quantities of water to get into mines, to the imminent danger not only of the mine immediately concerned, but also mines to the dip of it.

As was pointed out in the report last year, the water in the outcrop mines is likely to become a serious danger and difficulty when the deeper mines are worked.

Either large barriers of coal will have to be permanently left or expensive pumping plants maintained. The matter is sufficiently serious to engage the attention of mine owners in Bengal and I would urge them to take it into consideration.

SAFETY LAMPS.

In connection with the use of safety-lamps the following Circular was sent out during the year to most of the principal collieries. It will repay careful perusal:—

(1) A serious explosion of fire-damp recently happened in an Indian colliery causing the deaths of several miners. Safety lamps were the only lights allowed or used, and it is probable that the gas was fired by a lamp which had been illegally unlocked or by the flame passing through a gauze which had been carelessly allowed to be fouled with oil. This accident, which would have become a serious disaster if the place in which it occurred had been dry instead of being very wet, has again drawn attention to the fact that at most Indian collieries the arrangements for the locking and examination of safety lamps (when used) are far from satisfactory. I, therefore, wish to make the following suggestions for your consideration.

(2) *Locking.*—The old fashioned screw locks generally used are very inefficient. They are frequently out of order, and, at the best, the lamps fitted with them can be readily opened with an easily improvised key. A very simple and effective method of locking lamps is by means of lead rivets upon which a letter or other device can be impressed when the lamp is locked. Such a method is now largely used in England, and it has the great merit of preventing the opening of the lamps by any unauthorised person without detection.

(3) *Examination of safety lamps.*—In addition to the examination by the lamp-man who delivers the lamps to the miners, it is desirable that the lamps should be examined by some qualified person before they are taken into the mine to ascertain whether they are securely locked and in a fit condition for use. The officials when making inspections of the mine during working hours should also know the condition of the safety lamps.

(4) *Cleaning lamps.*—The lamps should be cleaned and stored in a place where oil is not likely to come in contact with the gauzes.

(5) It is desirable that a few safety lamps should be kept constantly fit for use in an emergency, even at mines where open lights are allowed.

MINING EDUCATION IN INDIA.

Continued progress has been made in mining education in Bengal. The Mining Instructor, Mr. W. T. Griffiths, commenced the regular course of lectures in the coalfields in November. Four centres were fixed as before, two in the Raniganj and two in the Jharia coalfields.

The names of 358 students are upon the registers and the average attendance at each lecture to the end of the year was about 30.

Many of the holders of certificates of competency under the Indian Mines Act have attended these lectures and doubtless their numbers will increase.

Information relating to the lectures will be found in Appendix III, Table No. 5.

The number of students taking the Mining Course at Sibpur College under Professor Roberton during the session 1907-08 was thirteen, of whom five will sit for the Diploma examination in April 1908. These students all attended the camp of Mine Surveying and Practical Mining, which was pitched at Gaurangdi during November and December 1907. A good sign is the demand in the coal-fields for passed students, which is considerably greater than the supply. All those who obtain diplomas this year have positions with good prospects assured to them, and those too who may fail to secure the diploma have been spoken for.

The new practical mining laboratory is now under way. The Professor of Mining, in consideration of the conditions of mining in Bengal, has designed the practical laboratory work with a special view to coal, particularly washing, briquetting and coking, in which lines there is no doubt it will be most profitable for the students to specialise. Meanwhile they will assist in the erection of the laboratory, and the fitting of such machinery as has arrived.

In last year's report mention was made that elementary education in the mining districts is in a very backward state. In the Giridih coal-field a serious attempt has been made for many years to educate the children.

In a presidential address which I had the honour of delivering a short time ago to an Institute of Mining Engineers, I ventured to sketch the conditions of an ideal colliery. Amongst these conditions I predicted that boys, after passing the elementary school, would be drafted into classes for technical education and as part of their instruction would be allowed the use of the colliery shops with electrically driven machinery. At the same time they would be receiving a small salary, and the best boys would rise most quickly to the best paid positions.

I am glad to acknowledge that I have found this condition of things existing in India. The school I visited at Giridih was an object lesson of what can be done for the native by native teachers, and is extremely encouraging for the future.

MINING AND GEOLOGICAL INSTITUTE OF INDIA.

This Institute again made good progress during the year. The total membership of all classes at the end of the year 1906 was 173, and at the end of 1907 it was 224, being an increase of 51 members. The Government prize for the best paper written during the year was awarded to Messrs. W. H. Pickering and R. R. Simpson for a paper entitled "Fighting a colliery fire," which was a description of the methods employed by the authors in putting out a

serious underground fire which occurred at a large colliery in the Asansol District.

The maps which have been made for the members of the Raniganj Map Committee have been printed and sent out to individual members of the Committee in order that they may put down information upon them.

The annual dinner, which took place during the annual meeting of the Institute at Calcutta, was attended by His Honour the Lieutenant-Governor of Bengal as principal guest, and was altogether a large and successful gathering.

The Institute is still young and those who are responsible for its management must see that methods are adopted which will make only for its welfare.

There have been several excellent papers read to the members during the year, but their value is considerably lessened by inadequate discussion. The chief value of a paper lies in the contributions which it draws from the members; and even the youngest may have had experience which will add to the sum of knowledge. If the Institute is to live this must be borne in mind.

MINING BOARD OF BENGAL.

Only one meeting of the Mining Board was held during the year. At that meeting the Board approved of the draft rules framed under Section 20 (2) (v) of the Indian Mines Act for the protection of Railways on lands in the vicinity of mines, and suggested a simple code of rules for regulating the working of mines other than coal mines.

A meeting fixed for November was postponed on account of the sudden death of the chairman.

BOARD OF EXAMINERS.

During the year 1907 the Board was constituted as in the previous year; Mr. Heslop however acted for six months in the place of Mr. Turnbull on leave.

The Board held 16 meetings during the year; Mr. Pickering being President for the first 13, and Mr. Grundy was appointed and acted as such at the last 3 meetings.

For Service Certificates, there were 88 applications, and certificates were granted in 90 instances. The increase is due to there being some cases which had not been disposed of in the previous year.

Certificates of Competency were granted to 28 applicants who were possessed of English Certificates of a similar class.

The examination which was held at the nd of January 1907 was conducted by the local Examining Board, the members of which were the same as on the previous occasion. Forty-six candidates appeared, and 28 obtained Certificates of Competency.

Another examination was held on 2nd December 1907 andwas conducted by Messrs. E. C. Agabeg and R. J. Browne (non-official members) and Mr. G. F. Adams (official member) who acted as Secretary. Sixty-two candidates appeared at this examination, of whom 31 obtained Certificates of Competency.

THE EDWARD MEDAL.

In Appendix III, Table No. 10, will be found a reprint from the "Gazette of India" of the 21st December 1907, containing the intelligence that His Majesty the King-Emperor desires to recognise and distinguish the many heroic acts performed by miners and quarrymen who endanger their own lives in saving or endeavouring to save the lives of others from perils in mines or quarries.

Only those intimately connected with mining operations know the risks which encompass the worker underground.

Perils by fire, water, deadly gases and the dreaded explosion of fire-damp repeatedly find their heroes; whose deeds in the darkness of the mine so often remain unchronicled and unacknowledged.

His Majesty's thoughtfulness in providing this new decoration has met with the greatest enthusiasm wherever mining is carried on.

The first "Edward Medal" was bestowed upon a man with whom I am personally acquainted, a Deputy in a Yorkshire Colliery.

Brave deeds have been done in Indian mines, and the coveted decoration may some day adorn the neck of the native miner.

OFFICIAL DUTIES.

There was no change in the personnel of the staff during the year, and a list of the inspection circles will be found in Appendix III, Table No. 9.

The work of the Inspectors by no means diminishes but on the contrary extends with the expansion of the mining industry. A very large portion of their time is taken up with enquiries under the Land Acquisition (Mines) Act, and these enquiries increase year by year.

I have the honour to be,

SIR,

Your most obedient servant,

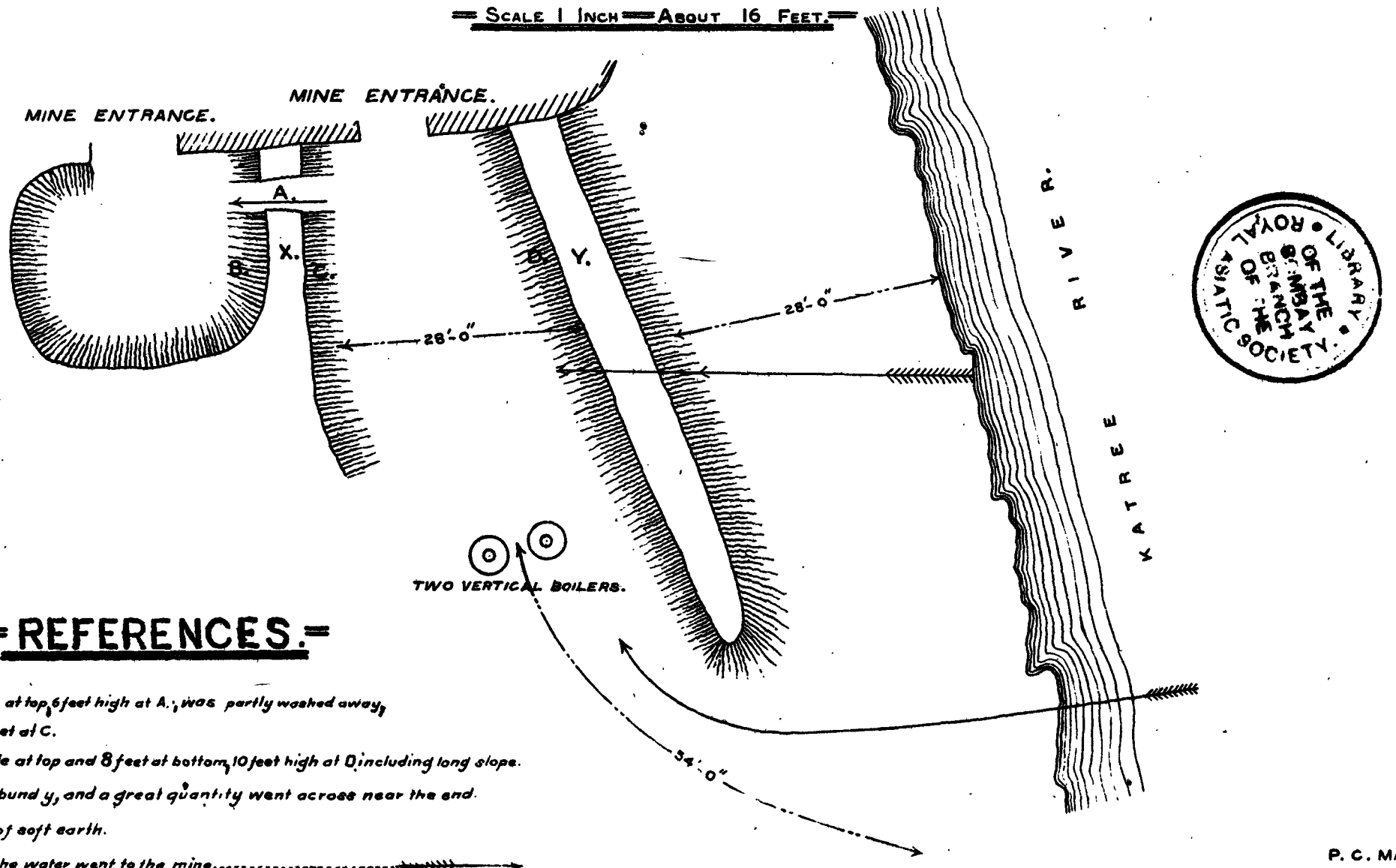
J. R. R. WILSON,

Chief Inspector of Mines in India.

FLOODING OF THE GAZLITAN MINE.

BY WHICH 2 MEN WERE DROWNED ON THE 5TH AUGUST 1907.

SCALE 1 INCH = ABOUT 16 FEET.



ROYAL ASIATIC SOCIETY • LIBRARY OF THE BOMBAY BRANCH OF THE

REFERENCES.

X— Bund about 3 feet wide at top, 6 feet high at A.; was partly washed away, 12 feet high at B, and 16 feet at C.

Y— Bund about 4 feet wide at top and 8 feet at bottom, 10 feet high at D including long slope.

The water undermined bund y, and a great quantity went across near the end.

The bunds were made of soft earth.

The arrows show the way the water went to the mine.....→

P. C. MANDAL.
Lead draftsman.

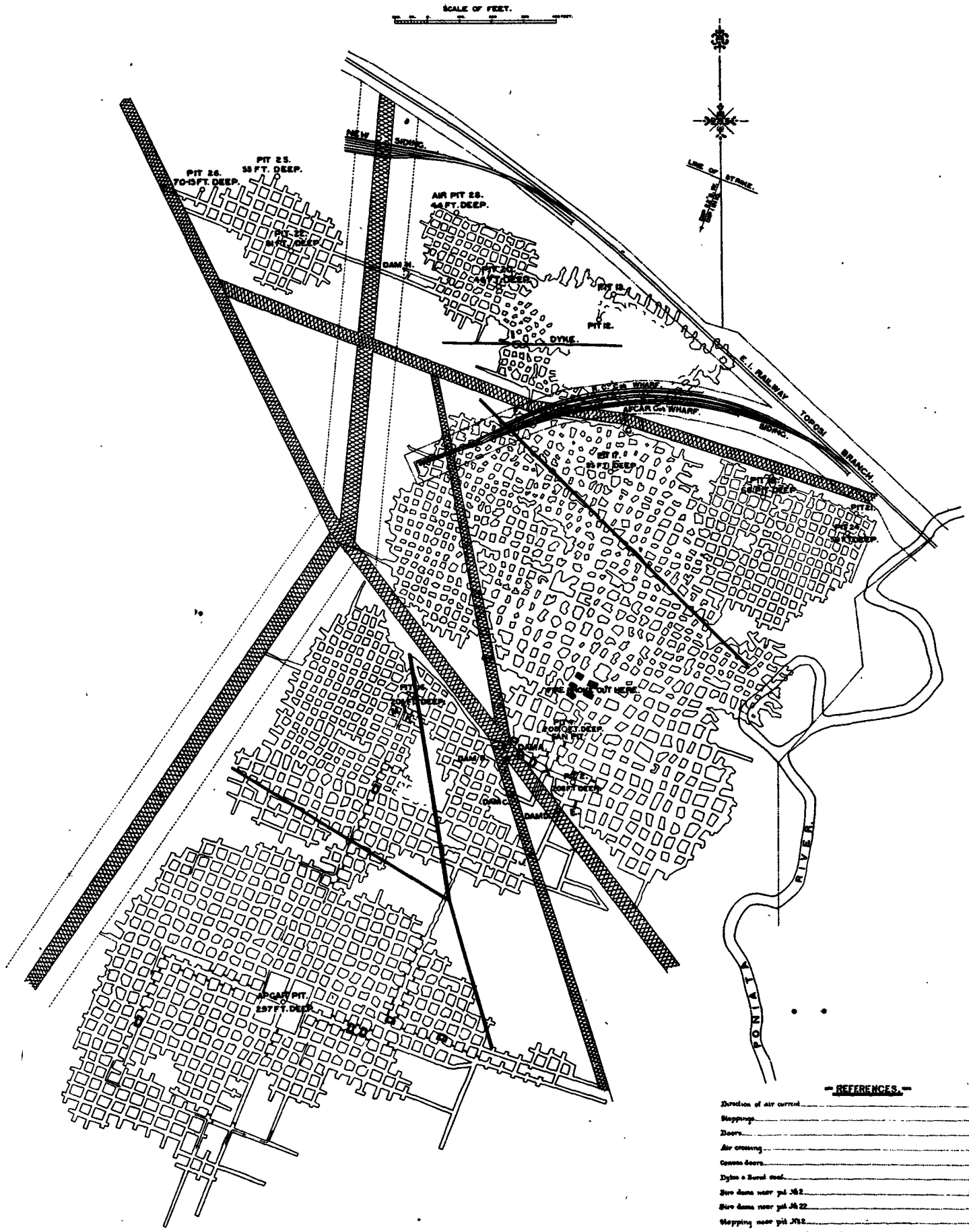
Reg No 1633 S 08.—Chief Inspector of Mines.—May 08.—1 500.

Dh S. L. O., Calcutta

CHARANPUR COLLIERY

SHOWING THE POSITIONS OF THE FIRE DAMS

AND THE COURSE OF THE VENTILATION.



REFERENCES.

Direction of air current	
Stoppings	
Doors	
Air crossing	
Cannon doors	
Dyke & Burnt coal	
Fire dams near pit No 2	A.B.C.D.
Fire dams near pit No 22	K.
Stopping near pit No 2	E.
Cutting through Dyke North of pit No 17	F.G.
Stone Stopping near pit No 18	K.

P.C. MANDAL.

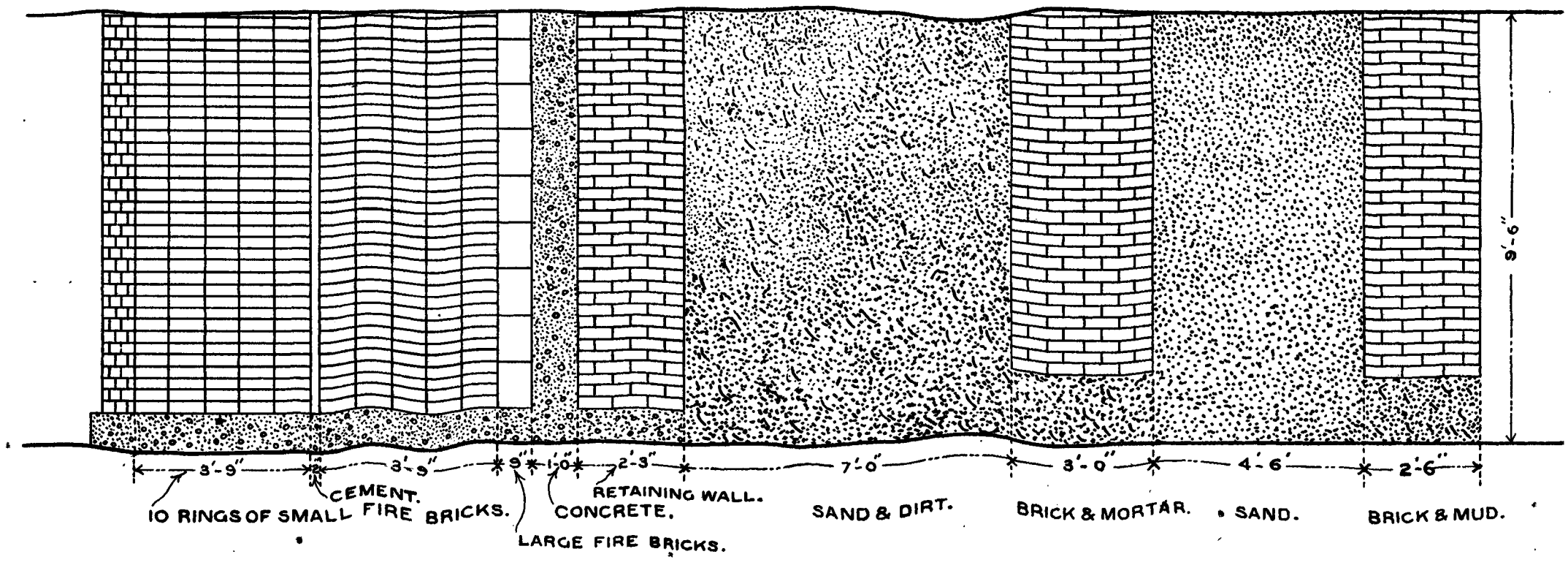
Reg No. 1736 E., 08.—Chief Inspector of Mines.—May 08.—1,500

Helio., S. I. O., Calcutta.

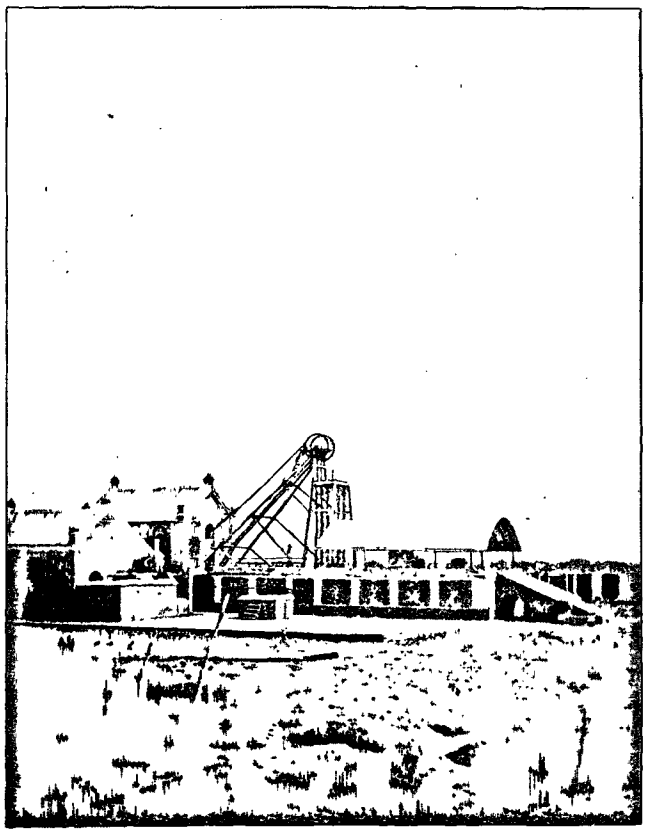
CHARANPUR COLLIERY.

SECTION OF FIRE DAM C.

= Scale 1 Inch = 3 Feet. =



CHARANPUR COLLIERY.



No. 17 Pit before the fire.



Pits Nos. 17, 19, & 21 during the progress of the fire.



No. 17 Pit during the progress of the fire.

APPENDIX I.

Fatal Accidents, 1907.

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			EXPLOSIONS OF FIRE-DAMP—(*5 deaths*).			
1	29th April, 2 P.M.	Borrea Mine, Sitarampur P. O., Burdwan, Bengal.	New Beerbhum Coal Co., Ld.	Bistu Roy, (*m.*), 25, *Coal-cutter.*	Coal .	The deceased and his mate were going to their ordinary working place, which was about 20' beyond a dyke, when close to their destination some fire-damp exploded and burnt them both, from the effects of which Bistu died eleven days later. *See Report, page 5.* Inspection and inquiry made.
2	20th May, 5 A.M.	Dishargarh Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Nursing Majhi, (*m.*), 30, *Coal-cutter.*	Coal .	Whilst working at the face of a level, the deceased lifted his naked light up towards the roof and ignited a little fire-damp which burnt him so severely that he died six days later. *See Report, page 5.* Inspection and inquiry made.
3	15th July, 9-30 A.M.	Laikdih Mine, Barakar P. O., Manbhum, Bengal.	Bengal Coal Co., Ld.	Sitaram Bauri, (*m.*), 28, Goyaram Bauri, (*m.*), 27, Dapu Bauri, (*m.*), 30, *Coal-cutters.*	Coal .	Four men went to work at the roof of a rise gallery where a little fire-damp had accumulated during the time some sheeting that directed the air had been broken down by falling stones. In some unascertained way the fire-dampt was ignited and the men were burnt by the explosion. Sitaram and Dapu died the next day and Goyaram the day after. The fourth man recovered. *See Report, page 5.* Inspection and inquiry made.
			FALLS OF ROOF AND SIDE—(*57 deaths*).			
			(*a*) Falls of roof—(*29 deaths*).			
4	7th January, 11-30 A.M.	Chota Dhemo Mine, Dishargarh P. O., Burdwan, Bengal.	Rai Ram Bandhu Chatterji, Bahadur.	Rameswar Bauri, (*m.*), 45, *Coal-cutter.*	Coal .	The deceased was loading coal in his working place, under overhanging roof coal, when a large quantity of the roof coal fell on his left leg fracturing it badly. He died from the injuries received on the same day. *See Report, page 6.* Inspection and inquiry made.
5	17th February, 4-30 P.M.	Koorwa Mine, Chakai P. O., Monghyr, Bengal.	D. C. Biswas & Co.	Chhatka Manjhi, (*m.*), 35, *Coolie.*	Mica .	Killed by a fall of roof.
6	19th February, 11 A.M.	Namdang Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Bhagirathi, (*m.*), 30, *Coal-cutter.*	Coal .	A "bump" occurred dislodging some roof coal which struck deceased on the head causing fatal injuries.
7	26th February, 3-45 A.M.	Shampur Mine, Nirsachatti P. O., Manbhum, Bengal.	Shampur Coal Co., Ld.	Bhadru Mahato, (*m.*), 28, Chaitan Harri, (*m.*), 31, *Coal-cutters.*	Coal .	The two deceased went, apparently without orders, to cut some roof coal in an old gallery when a large quantity of the coal fell on them and killed them outright. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—*contd.*			
			(*a*) Falls of roof—*contd.*			
8	26th February, 1-30 P.M.	Khuldia Mine, Giridih P. O., Hazaribagh, Bengal.	Bengal Coal Co., Ld.	Churki Ghatwarin, (*f.*), 26, *Coal-carrier.*	Coal	Whilst loading coal in a working place, a piece of roof stone fell and knocked down a prop which struck the deceased and injured her internally so seriously that she died within two hours. Inspection and inquiry made.
9	28th February, 2 P.M.	Namdang Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Mangal, (*m.*), 25, *Coal-cutter.*	Coal	Deceased was reducing a pillar when a "bump" occurred and a piece of coal burst out from the pillar from a "slip" striking him and causing fatal injuries.
10	3rd March, 2 A.M.	Kustore Mine, Kusunda P. O., Manbhum, Bengal.	Raniganj Coal Association, Ld.	Peary Chamain, (*f.*), 22, *Coal-carrier.*	Coal	A fall took place in a gallery situated between two pillars which were being got and in the goaf. The fall extended to just beyond the fence which was fencing off the goaf from the workpeople. Deceased's body was recovered at the fence. She was probably sleeping at the time. Inspection and inquiry made.
11	20th April, 5 P.M.	Khudia Mine, Nirsachatti P. O., Manbhum, Bengal.	S. B. Chatterji	Pana Bauri, (*m.*), 16, *Water-bailer.*	Coal	The deceased was found dead under a large fall of roof stone at the end face of a gallery that was fenced off. Inspection and inquiry made.
12	18th May, Midday.	East Ledo Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Kali Kahar, (*m.*), 25, *Filler.*	Coal	Whilst filling coal into a basket some roof coal fell on him injuring him so severely that he died two days later.
13	20th May, 3-30 P.M.	Takrai Mine, Khost P. O., Sibi, Baluchistan.	North-Western Railway.	Hari Ram, (*m.*), 19, *Mine mate.*	Coal	The deceased went and lay down in an unsecured place in the goaf when a piece of shale. 20lb. in weight, fell on him from the roof causing concussion of the brain from which he died the next day.
14	13th June, 3 P.M.	Baromashia Mine, Bamdah P. O., Monghyr, Bengal.	Hazarimal Marwari.	Anund Rana, (*m.*), 45, Rasika Mauzy, (*m.*), 40, *Miners.*	Mica	Killed by a fall of roof while working without permission in an abandoned working.
15	15th June, 11 A.M.	Dandot Mine, Dandot P. O., Jhelum, Panjab.	Government of India.	Hasham Ali, (*m.*), 22, *Miner.*	Coal	Whilst he was executing some repairs, a fall of roof took place injuring him so seriously that he died on the 7th July.
16	2nd July, 9 A.M.	East Ledo Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Ram Charan Napit, (*m.*), 33, *Filler.*	Coal	A piece of roof coal struck him on the head and fractured his skull. He died the following day.
17	4th July, 10 A.M.	Namdang Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Monglu, (*m.*), 27, *Filler.*	Coal	The deceased was picking coal while a narrow heading was being cut in soft coal, when the heading suddenly collapsed, burying the man completely and suffocating him.
18	5th July, 2 P.M.	Aldih Mine, Sitarampur P. O., Burdwan, Bengal.	Aldih Coal Co., Ld.	Bhogta Majhi, (*m.*), 35, *Coal-cutter.*	Coal	Killed by a fall of roof stone whilst robbing coal in a fenced off gallery. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		FALLS OF ROOF AND SIDE—*contd.*				
		(*a*) Falls of roof—*contd.*				
19	6th July, 10 A.M.	Borrea Mine, Sitarampur P. O., Burdwan, Bengal.	New Beerbhum Coal Co., Ld.	Jadu Majhi, (*m.*), 15, *Coal-cutter.*	Coal	As he was going to his working place some roof stone fell, a portion of which struck him on the lower part of the body and injured him so seriously, internally, that he died in about an hour's time. Inspection and inquiry made.
20	2nd August, 7-30 A.M.	Kabulayatkatti Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Nanjunda, (*m.*), 35, *Hand-drill coolie.*	Gold	Whilst deceased and three others were clearing the end of a level preparatory to boring, some loose earth fell and struck him, causing injuries through the effects of which he died shortly afterwards.
21	14th August, 2-45 P.M.	Kabulayatkatti Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Marapen, (*m.*), 25, Kavery, (*m.*), 25 *Hand-drill coolies.*	Gold	The deceased were drilling in a stope when a portion of the roof fell and crushed them.
22	26th September, 11 A.M.	Jogta Mine, Sijua P. O., Manbhum, Bengal.	Agabeg Bros.	Suku Majhain, (*f.*), 18, *Coal-carrier.*	Coal	A piece of coal fell from the roof on to her leg while filling her basket. Blood poisoning supervened and she died on the 2nd October.
23	1st October, Between 9 and 10 A.M.	East Kurkend Mine, Kusunda P. O., Manbhum, Bengal.	Marine Coal Co., Ld.	Kanna Majhi, (*m.*), 18, *Coal-carrier.*	Coal	His leg was broken by a piece of roof stone falling on it. Died from its effects on the 3rd October.
24	4th October, 2 P.M.	Upper Ledo Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Bhabrini, (*f.*), 22, *Filler.*	Coal	A big "bump" occurred dislodging about 20 tons of fine coal which completely buried the deceased, and suffocated her to death.
25	30th October, 2 P.M.	Kenwadih Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Thakur Mahto, (*m.*), 25, *Miner.*	Coal	He was standing on a trestle in one gallery cutting roof coal into the mouth of another gallery, when a large mass of roof coal fell, knocking over the trestle and injuring him so seriously that he died on reaching the surface. Inspection and inquiry made.
26	30th October, 5 A.M.	Bhaga Mine, Jharia P. O., Manbhum, Bengal.	Jharia Colliery Co., Ld.	Koka Majhi, (*m.*), 22, *Miner.*	Coal	The deceased was working with other miners digging floor coal, when a piece of coal of about 3 feet square and 1 foot thick fell out of the roof and on him. Inspection and inquiry made.
27	18th November, 5 P.M.	Charnock Mine, Asansol P. O., Burdwan, Bengal.	Charnock Collieries, Ld.	Mangal Santal, (*m.*), 18, *Miner.*	Coal	Killed by a large block of top coal whilst taking out bottom coal.
28	3rd December, 5 P.M.	Khas Jharia Mine, Jharia P. O., Manbhum, Bengal.	Khas Jharia Colliery Co., Ld.	Robi Mullick, (*m.*), 24, *Coal-cutter.*	Coal	He was standing on a stool ripping up into some roof coal, when a large piece fell on him injuring him so severely that he died within a few minutes. *See Report, page 6.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—*contd.*			
			(*a*) Falls of roof—*concld.*			
29	5th December, 4-30 P.M.	Central Kurkend Mine, Kusunda P. O., Manbhum, Bengal.	Central Kurkend Coal Co., Ld.	Charki Kole, (*f.*), 21, *Coal-carrier.*	Coal	Killed by a fall of roof coal. *See Report, page 6.* Inspection and inquiry made.
			(*b*) Falls of side—(*28 deaths.*)			
30	4th January, 3 P.M.	Bhaga Mine, Jharia P. O., Manbhum, Bengal.	Jharia Colliery Co., Ld.	Podo Mullick, (*m.*), 30, Bepin Bauri, (*m.*), 36, *Miners.*	Coal	These men were loading coal, which had been "dropped" from a pillar, which was being got. It is uncertain whether they were killed by more coal suddenly falling, or by coal which was found, fallen from the pillar opposite. If from the latter, they were probably robbing it. *See Report, page 6.* Inspection and inquiry made.
31	24th January, 5 P.M.	Chirki Mine, Kodarma P. O., Hazaribagh, Bengal.	The Acme Mica Co. (E. M., and W. T. Floyd).	Muruth Gope, (*m.*), 30, *Sirdar.* Tuckri Teli, (*m.*), 16, Lillu Teli, (*m.*), 28, Bhyru Gope, (*m.*), 20, Jhurri Manjhi, (*m.*), 30, *Coolies.*	Mica	Ten men were working in a narrow trench in the bottom of a quarry, when a fall occurred from the side burying them in the trench. Five were got out alive and the remaining five dead, probably suffocated. *See Report, page 7.* Inspection and inquiry made.
32	7th April, 6 A.M.	Jharia Khas Mine, Jharia P. O., Manbhum, Bengal.	Standard Coal Co., Ld.	Chumto Dhobi, (*m.*), 30, *Miner.*	Coal	He was filling coal with others at a pillar which had been "dropped," and after taking coal to the surface, for some reason of his own appears to have gone down another road, over a fence. The overman heard some coal "working" and shouted out "run, run." Deceased ran up towards the others, but the coal fell on him killing him instantly. Inspection and inquiry made.
33	23rd April, 10-30 A.M.	Tikak Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways and Trading Co., Ld.	Arjoon, (*m.*), 24, *Filler.*	Coal	Killed by a lump of coal that fell on him while clearing rubbish.
34	1st May, 8-30 A.M.	Miragpur Mine, Kamptee P. O., Nagpur, Central Provinces.	Central India Mining Co., Ld.	Sukia, (*m.*), 35, *Miner.*	Manganese	The deceased was working with a crowbar in a slightly overhanging cutting of thinly bedded ore 7 feet high, when about two feet of the upper portion fell over and killed him on the spot. *See Report, page 7.* Inspection and inquiry made.
35	7th May, 6-30 P.M.	Binadikatta Mine, Shamdi P. O., Burdwan, Bengal.	Bidhu Bhusan Sarkar.	Kamini Baurini, (*f.*), 22, *Earth-carrier.*	Coal	Killed by a fall of side while picking coal for her own use. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—*contd.*			
			(b)* Falls of side—*contd.			
36	7th June, 11-45 P.M.	Gopalichak Mine, Jharia P. O., Manbhum, Bengal.	Gopalichak Coal Co., Ld.	Fateh Majhi, (*m.*), 32, *Miner.*	Coal	The deceased and another man were found buried under a fall 18′ × 15′ × 3′ which occurred on a tram-line level. Their tubs were found alongside empty. It was not their proper working place. They probably intended robbing coal. The injured man was taken away by his relatives. Inspection and inquiry made.
37	7th July, 6-30 A.M.	Choitodih Mine, Katrasgarh P. O., Jharia, Bengal.	Lutchipur Coal Co., Ld.	Ratu Chamar, (*m.*), 30, *Miner.*	Coal	The deceased was working in an abandoned face of a gallery though warned to desist, when a piece of coal 3′ × 2′ × 1′ fell from a height of about 9′ injuring him and a girl. He died shortly afterwards from the effects of the injuries. Inspection and inquiry made.
38	19th July, 4-15 P.M.	Red Hill Mine, Mogok P. O., Ruby Mines District, Burma.	Burma Ruby Mines, Ld.	Mi Kong, (*m.*), 40, Soupa, (*m.*), 17, *Coolies.*	Ruby	Several coolies were sloping down a bank of earth when the ground slipped from under them, Mi Kong lost his footing, rolled over, and was immediately buried and suffocated. Soupa stepped clear, but some fresh earth threw him down the bank and fractured his skull.
39	24th August, 7-30 P.M.	Faridpur Mine, Charanpur P. O., Burdwan, Bengal.	Poniati Coal Co.	Pocha Bauri, (*m.*), 20, *Coal-cutter.*	Coal	Killed whilst robbing a pillar in old workings, by about 80 maunds of coal falling on him. Inspection and inquiry made.
40	29th August, 7 P.M.	Taroktan Mine, Mogok P. O., Ruby Mines District, Burma.	Burma Ruby Mines, Ld.	Low See, (*m.*), 28, *Coolie.*	Ruby	Whilst pushing trucks from the working face, a piece of rock broke off and fell on him fracturing his skull.
41	26th September, 5 A.M.	Brahmanbarari Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Garu Bauri, (*m.*), 21, *Coal-cutter.*	Coal	Whilst robbing a pillar in some old workings, a portion of its corner fell on him killing him on the spot. Inspection and inquiry made.
42	5th October, 12-30 P.M.	Hosur Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Hosur Gold Mines of Dharwar, Ld.	Yellishurur Goorappah, (*m.*), ? *Surface Contractor.*	Gold	Injured by a fall of side. Died later.
43	15th October, 5 P.M.	Mysore Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Mysore Gold Mining Co., Ld.	Mysore Chelviah, (*m.*), 32, *Blaster Maistry.*	Gold	Injured by a fall of side after blasting operation. Died the next day from the effects of the injuries received.
44	18th October, 6 o'clock.	Kabulayatkatti Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Thirumalai, (*m.*), 45, *Maistry.*	Gold	After blasting operations loose rock from the face was being pinched out when a large piece fell on him causing severe injuries from the effects of which he died.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			FALLS OF ROOF AND SIDE—*contd.*			
			(*b*) Falls of side—*contd.*			
45	23rd October, 12-30 P.M.	New Surataur Mine, Jharia P. O., Manbhum, Bengal.	J. L. Banerji & Co.	Hingla Bauri, (*m.*), 35, *Miner.*	Coal	He was found severely injured under a large fall of coal from the side of a pillar in a fenced off place. He died about an hour later. *See Report, page 7.* Inspection and inquiry made.
46	18th November, 8-30 A.M.	Gowangotha Mine, Kamptee P. O., Nagpur, Central Provinces.	Jessop & Co., Ld.	Holu Gond, (*m.*), 23, *Labourer.*	Manganese	He came alone in the early morning and began prizing out loose portions of manganese from the vein with a crowbar. While he was filling these into a basket, a slab of impure ore which had been loosened by his work rolled over and crushed him to death. Inspection and inquiry made.
47	21st November, 3 P.M.	Kuordih Mine, Kalipahari P. O., Burdwan, Bengal.	Kuordih Coal Co., Ld.	Dharam Majhi, (*m.*), 19, *Coal-cutter.*	Coal	He failed to stand clear when his mate was wedging down a piece of under-cut coal weighing about a ton. The falling coal struck him and nearly tore off his arm. He died subsequent to the amputation of his arm. *See Report, page 7.* Inspection and inquiry made.
48	27th November, 10 A.M.	Kosamba Mine, Kamptee P. O., Nagpur, Central Provinces.	Central India Mining Co., Ld.	Denai Kole, (*m.*), 45, *Miner.*	Manganese	He was removing débris from an open cutting in loose earth, about 7 feet deep, when a boulder, weighing about half a ton, fell on him and inflicted injuries from which he died two days later. Inspection and inquiry made.
49	2nd December, 3 P.M.	Dewanjote Mine, Tisri P. O., Giridih, Bengal.	F. F. Chrestien & Co.	Kaghu Gope, (*m.*), 30, *Coolie.*	Mica	A fall of side took place while earth was being taken from the top to open out the mine, which struck him on the head and fractured his skull.
50	6th December, 5 P.M.	Sudriadih Mine, Nowagarh P. O., Manbhum, Bengal.	Sudriadih Coal Co., Ld.	Beliah Beldar, (*f.*), 12, *Earth-carrier.*	Coal	She was sitting with two other women in a new incline when some earth and soft coal 4′ × 4′ × 2′ fell and buried and suffocated her. Inspection and inquiry made.
51	24th December, 1 P.M.	Bhalgora Mine, Jharia P. O., Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Mistri Majhi, (*m.*), 26, *Miner.*	Coal	While engaged in extracting pillars, a large piece of roof coal came away and fell on him, causing such severe injuries that he died the same evening. Inspection and inquiry made.
			IN SHAFTS—(*21 deaths*).			
			Ropes and chains breaking—(*1 death*).			
52	24th May, 2-30 P.M.	Benahir Mine, Jharia P. O., Manbhum, Bengal.	Standard Coal Co., Ld.	Dhona Majhi, (*m.*), 30, *Miner.*	Coal	As a full bucket reached the top of a pit the rope broke and the bucket fell on him as he was standing at the pit bottom. He died three days later from the effects of the injuries received. *See Report, page 8.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
		IN SHAFTS—*contd.*				
		Whilst ascending and descending by machinery—(*3 deaths*).				
53	9th February, 5-30 P.M.	Mudidih Mine, Katrasgarh P. O., Manbhum, Bengal.	Reliance Coal Co., Ld.	Thakuri Gope, (*m.*), 31, *Sinker.*	Coal	The deceased and another man had been raised to the surface and while the trolley was being pushed underneath, he fell out of the bucket. No one actually saw him fall. He may have been trying to get on to the rim preparatory to getting off. Inspection and inquiry made.
54	17th May, 3 P.M.	Rajhara Mine, Rajhara P. O., Palamau, Bengal.	Bengal Coal Co., Ld.	Yar Mahomed, (*m.*), 30, *Fitter.* Kumar Singh, (*m.*), 32, *Pump khalassi.*	Coal	The fitter was being raised up a shaft 100′ deep, by means of a crab winch. He was within 15′ of the surface when the rope broke and he fell to the bottom of the shaft and was killed. He fell upon the pump khalassi and killed him. The rope was badly worn and corroded internally. *See Report, page 8.* Inspection and inquiry made.
		Falling into the shaft from the surface—(*3 deaths*).				
55	21st March, 12-15 A.M.	Shampur Mine, Nirsachatti P. O., Manbhum, Bengal.	Shampur Coal Co., Ld.	Behari Bauri, (*m.*), 20, *Banksman.*	Coal	Deceased appears to have fallen down the pit whilst working with the fence-gate removed, contrary to orders. Inspection and inquiry made.
56	9th August, 2-40 P.M.	Jamadoba Mine, Jharia P. O., Manbhum, Bengal.	Indian Collieries Syndicate, Ld.	Babu Lal Roy, (*m.*), 30, *Fitter.*	Coal	The deceased was fastening a clamp for some pulley blocks during the raising of a pump when a hook of one of the winches broke and he was carried over the pit by the rope and killed. *See Report, page 8.* Inspection and inquiry made.
57	14th November, 4 P.M.	Begunia Mine, Barakar P. O., Burdwan, Bengal.	N. L. Gorain and others.	Bistu Bauri, (*m.*), 40, *Engine khalassi.*	Coal	While unfastening a small 10″ pulley from the top of the pit head gear, about 30′ high, his feet slipped off the cross-iron tie rod on which he was standing and he fell down the pit into about 70′ of water and was drowned. *See Report, page 9.* Inspection and inquiry made.
		Falling from part of the way down—(*7 deaths*).				
58	7th January, 4-30 P.M.	Bulliari Mine, Jharia P. O., Manbhum, Bengal.	Bulliari Coal Concern.	Domarku Lilu, (*m.*), 35, *Sinking Sirdar.*	Coal	The deceased had his foot on the hook whilst being drawn up a pit by means of a gin when apparently his foot slipped and he fell from nearly three-quarters of the way up and was killed instantly. Inspection and inquiry made.
59	19th March, 5 P.M.	Heratar Mine, Tisri P. O., Hazaribagh, Bengal.	F. F. Chrestien & Co.	Jungli Rai, (*m.*), 60, *Coolie.*	Mica	The deceased was climbing a ladder to come out of the mine when his foot slipped and he fell to the bottom. He died two hours later.
60	29th May, 10 A.M.	North Kustore Mine, Kusunda P. O., Manbhum, Bengal.	Kusunda and Nayadi Collieries, Ld.	Behari Gope, (*m.*), 25, *Pump khalassi.*	Coal	He suddenly from some unexplained cause fell into the sump through a 6′-10″ × 4′-12′ opening in the staging at the pit bottom. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
IN SHAFTS—*contd.*						
Falling from part of the way down—*contd.*						
61	27th June, 9-45 A.M.	Sodepur Mine, Sitarampur P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Rakhal Majhi, (*m.*), 35, *Coal-cutter.*	Coal	The deceased and four others were descending a pit in a cage when it collided with the ascending cage. The consequent shock and tilting of the cage caused him to fall out and to the bottom of the pit, a depth of about 194 feet, where he was found quite dead. Inspection and inquiry made.
62	26th July, 6 A.M.	Anantapur Mine, Morriston P. O., Anantapur, Madras.	Anantapur Gold Field, Ld.	Swamy, (m.), 36, *Hand jumper maistry.*	Gold	The deceased slipped and fell while climbing a ladder and fractured his skull.
63	5th August, 10-30 P.M.	Pretoria Mine, Charanpur P. O., Burdwan, Bengal.	Sibpur Coal Co., Ld.	Mohan Kora, (*m.*), 40, *Pumpman.*	Coal	The deceased and three women were descending a shaft when the man fell to the bottom and was killed instantly. Inspection and inquiry made.
64	1st September, 4 A.M.	Chinchuria Mine, Asansol P. O., Burdwan, Bengal.	New Beerbhum Coal Co., Ld.	Ram Charan Singh, (*m.*), 32, *Sinker.*	Coal	He was being lowered in the kibble and thinking that he had almost reached the bottom of the shaft, jumped out, falling a distance of about 20 feet. The injuries received were so serious that he died from their effects on the 15th September. Inspection and inquiry made.
Things falling from the surface—(*2 deaths*).						
65	8th March, 2-30 P.M.	Sanctoria Mine, Dishargarh P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Chaitu Singh, (*m.*), 25, *Stone-cutter.*	Coal	The deceased with two others were working in an upcast shaft and were down about 300 feet from the surface. He leaned forward from the cage to see if they were in the proper place when something fell down the pit on to his head and fractured his skull, from the effect of which he died almost immediately. Inspection and inquiry made.
66	7th May, 7-30 P.M.	Sitalpur Mine, Sitarampur P. O., Burdwan, Bengal.	Bengal Coal Co., Ld.	Lakhu Bauri, (*m.*), 20, *On-setter.*	Coal	Whilst the deceased and another man were pulling an empty tram from the pit cage at the pit bottom, a piece of coal fell down the pit, evidently from the loaded tram which had just been hauled up, and struck him on his head fracturing his skull. He died the next day. Inspection and inquiry made.
Things falling from part of the way down—(*2 deaths*).						
67	19th March, 11 P.M.	Chinchuria Mine, Charanpur P. O., Burdwan, Bengal.	Baraboni Coal Concern, Ld.	Meghnad Bauri, (*m.*), 21, *Coolie.*	Coal	Deceased was sending up the pit in a basket stones which had previously been loosened, when probably owing to careless hooking two of the hooks attaching the rope to the basket became detached and the basket tilting threw the contents on to his head. He died an hour later. Investigation and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			IN SHAFTS—*contd.*			
			Things falling from part of the way down—*contd.*			
68	30th December, 10 A.M.	Mudidih Mine, Sijua P. O., Manbhum, Bengal.	Reliance Coal Co., Ld.	Thanu Bhuia, (*m.*), 30, *Sinker.*	Coal .	While some men were working at the bottom of a sinking shaft two or more small stones fell out of the side of the shaft, one of them killing Thanu and injuring another. *See Report, page 9.* Inspection and inquiry made.
			Miscellaneous—(*3 deaths*).			
69	18th February, 10 P.M.	Bamundiha Mine, Sitarampur P. O., Burdwan, Bengal.	Damuda Coal Co., Ld.	Choto Majhi, (*m.*), 24, *Coal-cutter.*	Coal .	The deceased and eight others were being lowered into a pit in a cage when a corner of the cage got caught at a landing, 24 feet below the top landing. The opposite end tilted downwards and caused him to fall out and down the pit over 300 feet. *See Report, page 9.* Inspection and inquiry made.
70	14th March, 2-30 P.M.	Panchgatchia Mine, Sitarampur P. O., Burdwan, Bengal.	Lutchipur Coal Co., Ld.	Khobilasy Pasin, (*f.*), 22, *Bailer.*	Coal .	The deceased was wrongly going across the pit-bottom while the cages were in motion and the descending cage fell on her and killed her instantly. Inspection and inquiry made.
71	8th May, 4-30 P.M.	Sendra Mine, Katrasgarh P. O., Manbhum, Bengal.	Rai Srinath Pal Bahadur.	Jonab Sheik, (*m.*), 22, *Khalassi.*	Coal .	He was in the pit on the pump platform and was tightening a nut. The wrench slipped, and he fell down 9 feet into 8 feet of water and was drowned. Inspection and inquiry made.
			BY EXPLOSIVES—(*11 deaths*).			
72	1st February, 12-30 P.M.	Brahmanbarari Mine, Jharia P. O., Manbhum, Bengal.	East Indian Coal Co., Ld.	Sudabally Meah, (*m.*), 30, *Sinker.*	Coal .	While eleven men were dressing the sides in a pit-bottom an explosion of dynamite occurred injuring two men, one of whom (the deceased) died the following night. *See Report, page 9.* Inspection and inquiry made.
73	26th February, 12 Noon.	Surachur Mine, Jharia P. O., Manbhum, Bengal.	K. B. Seal .	Lal Moni Dhoba, (*m.*), 25, *Head Sinker.*	Coal .	He had gone down a sinking shaft to fire four shots. Two fuses were two feet long, and two three feet long. By mistake he fired the two short fuses first. He had some difficulty in lighting the 3rd fuse, and the 1st fuse went off when he was being brought up and when he was only 6 feet from the bottom. He was thrown to the bottom of the pit and injured by the three other shots to such an extent that he died in four hours. Inspection and inquiry made.
74	6th March, between 9 and 10 A.M.	Harayah Mine, Kodarma P. O., Hazaribagh, Bengal.	F. F. Chrestien & Co.	Ramdala, (*m.*), 13½, *Coolie.*	Mica .	The deceased was trimming an open lamp close to a box of gunpowder when a spark fell on the powder and caused an explosion. He was burnt so severely that he died on the 13th March.
75	21st May, 2-30 P.M.	Bhandawas Mine, Sanwar P. O., Ajmer, Rajputana.	R. B. Seth Sobhagmal Dhudha.	Gomanath, (*m.*), 35, *Coolie.*	Mica .	Gunpowder was being handled in a shed on the surface when it exploded. Three men were burnt and Gomanath so seriously that he died two days afterwards. *See Report, page 9.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			BY EXPLOSIVES—*contd.*			
76	18th August, 4 A.M.	Anantapur Mine, Morriston P. O., Anantapur, Madras.	Anantapur Gold Field, Ld.	Appiah, (*m.*), 46, Narasigadu, (*m.*), 25, *Coolies.*	Gold	During the temporary absence of the blaster, the deceased hammered at a rock which contained a "socket" that had missed fire. It exploded just then and injured them so severely that they died from the effects.
77	8th September, 2-30 A.M.	Dharwar Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Gold Mines, Ld.	Solomon, (*m.*), 40, *Maistry.*	Gold	The deceased and another man began drilling after the blaster had reported that all the holes previously set had fired. One, however, had missed fire and this exploded injuring both severely. Solomon died from the effects the same day.
78	11th September, 9 A.M.	Hosur Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Hosur Gold Mines of Dharwar, Ld.	Daval Saib, (*m.*), 12, *Surface coolie.*	Gold	While blasting operations were in progress every one near by was ordered away, but deceased who was about 300 feet away behind the stores rushed out to see the explosives and was struck on the head by a piece of stone. He died half an hour later.
79	22nd October, 5 A.M.	Barkui Mine, Pench Valley P. O., Chhindwara, Central Provinces.	Pench Valley Coal Co., Ld.	Raghubir Noghana, (*m.*), 42, *Hewer.*	Coal	Against the sirdar's orders the deceased returned to his working place within a few minutes of the lighting of the fuse of a shot. He thought that a misfire had taken place, but no sooner had he reached the face than the shot exploded and he was killed on the spot. Inspection and inquiry made.
80	21st November, 12-30 P.M.	Chandametta Mine, Pench Valley P. O., Chhindwara, Central Provinces.	Pench Valley Coal Co., Ld.	Narbadi Noghani, (*f.*), 30, *Coal-carrier.*	Coal	A shot was fired in a bord just on the point of holing into the cross-cut; the deceased was filling coal and was struck on the head by the flying coal. The shot firer claimed to have warned every one. Inspection and inquiry made.
81	28th December, 4 A.M.	Jawatari Mine, Nawadah P. O., Gaya, Bengal.	Kanhaya Lal	Motia Mushar, (*m.*), 25, *Miner.*	Mica	He was coming out of the pit after charging a bore hole when the charge fired and a piece of stone struck him on the chest killing him.
			IRRUPTIONS OF WATER OR FALLING INTO WATER—(*4 deaths*).			
82	9th April, 6-30 A.M.	Narsamuda Mine, Asansol P. O., Burdwan, Bengal.	Sitarampur Coal Co., Ld.	Jogesar Bauri, (*m.*), 12, Ragha Baurini, (*f.*), 15, *Water-bailers.*	Coal	The deceased were bailing water during the night, and it appears they left off work and rambled into a gallery where a pumping engine was working and exhausting into a shallow sump full of hot water. The boy fell into this sump and the girl went in to get him out. Both were scalded and died some hours later, *See Report, page 9.* Inspection and inquiry made.
83	5th August, between 3 and 5 A.M.	Ganzlatar Mine, Katrasgarh P. O., Manbhum, Bengal.	New Manbhum Coal Co., Ld.	Mottia Gope, (*m.*), 24, *Tramming coolie.* Suckai Gope, (*m.*), 35, *Dust-screener.*	Coal	Drowned by the overflowing of an adjacent river into the mine where the two deceased and another man were working unknown to anyone. *See Report, page 10.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			SUFFOCATION BY GASES—(*2 deaths*).			
84	12th June, 3 P.M.	Sor Range Mine, Quetta P. O., Pishin, Baluchistan.	Khan Bahadur B. D. Patel, C.I.E.	Fateh Mahomed, (*m.*), 30, *Coolie.*	Coal	While he was working along with another man in a level close to some old workings which had been holed into a day or two previously, some carbon dioxide gas accumulated and put out their lights. The men ran towards the place from where fresh air was coming, but the deceased stumbled and fell and evidently was overcome by the gas and suffocated. *See Report, page 10.*
85	15th September, 11 P.M.	Benahir Mine, Jharia P. O., Manbhum, Bengal.	Standard Coal Co., Ld.	Roshan Gope, (*m.*), 30, *Sinker.*	Coal	Deceased descended before his mates on a Sunday night after the pit had been idle all day, and was suffocated by carbonic acid gas at the pit bottom. *See Report, page 10.* Inspection and inquiry made.
			HAULAGE—(*10 deaths*).			
86	4th February, 10 A.M.	Bhalgora Mine, Jharia P. O., Manbhum, Bengal.	Bhalgora Coal Co., Ld.	Jiban Bauri, (*m.*), 28, *Surface Hookman.*	Coal	The deceased got caught through his own carelessness between a train of seven full tubs which was being lowered down to the wharf and another train of empty tubs which was standing on another tramway, and was injured so severely that he died 6 hours afterwards. Inspection and inquiry made.
87	26th February, 7 A.M.	Rampur Mine, Kalipahari P. O., Burdwan, Bengal.	S. T. Creet and Co.	Sobu Bauri, (*m.*), 25, *Bottom Hookman.*	Coal	He with three other men was attempting to lift a derailed coal wagon on to the line when the wagon overturned and crushed him against a coal pillar. He died on the 6th March from the effects of the injury. Inspection and inquiry made.
88	18th April, 10 A.M.	Chandametta Mine, Pench Valley P. O., Chhindwara, Central Provinces.	Pench Valley Coal Co., Ld.	Nattu Kori, (*m.*), 24, *Coal-cutter.*	Coal	A train of tubs ran over him while he was in their way without a light and fractured his leg. Septic poisoning supervened. He died 3 or 4 days later. Inspection and inquiry made.
89	29th April, 11-45 A.M.	Ghusik Mine, Kalipahari P. O., Burdwan, Bengal.	S. T. Creet and Co.	Gorabini Baurini, (*f.*), 40, *Coal-carrier.*	Coal	Owing to the shearing of that portion of the frame of a coal tub to which the draw-hook was attached three tubs ran amain. The deceased was sitting near the crossing into a siding 375′ down the plane. The tubs became derailed at the points, and she was struck by them and killed on the spot. The connection which broke was of weak construction and design. *See Report, page 11.* Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			HAULAGE—*contd.*			
90	16th May, 10 A.M.	Kankani Mine, Sijua P. O., Manbhum, Bengal.	Eastern Coal Co., Ld.	Munku Tewari, (*m.*), 26, *Pit Munshi.*	Coal	The deceased was going down an incline when a train of eight empty tubs ran down amain, overtook him, knocked him down and killed him instantly. Inspection and inquiry made.
91	10th July, 11 A.M.	West Ledo Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways & Trading Co., Ld.	Budram Mura, (*m.*), 30, *Rope-rider.*	Coal	Killed by being run over by tubs.
92	27th September, 9 P.M.	Namdang Mine, Margherita P. O., Lakhimpur, Eastern Bengal and Assam.	Assam Railways & Trading Co., Ld.	Duku Bhumiz, (*m.*), 20, *Brakesman.*	Coal	The deceased omitted to place the stop-block in position and was run over by a loaded tub. He died about five hours after the accident.
93	27th September, 3 A.M.	Baraboni Mine, Asansol P. O., Burdwan, Bengal.	Ghusic and Muslia Collieries, Ld.	Betul Bauri, (*m.*), 30, Jegoshi Bauri, (*m.*), 26, *Stone-cutters.*	Coal	While the two deceased were asleep at a curve on the dip haulage plane, the haulage rope broke and nine empty wagons ran amain. They became derailed at the curve and ran over the men causing injuries from which they died shortly after. Inspection and inquiry made.
94	3rd October, 11-30 P.M.	Central Kurkend Mine, Kusunda P. O., Manbhum, Bengal.	Central Kurkend Coal Co., Ld.	Kisson Majhi, (*m.*), 30, *Coal-carrier.*	Coal	Eight empty tubs got loose and ran amain and collided with the deceased and broke his leg. Blood poisoning supervened and he died on the 9th October. Inquiry held.
			SUNDRIES UNDERGROUND—(*3 deaths*).			
95	17th February, 1 P.M.	Dishargarh Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Baron Teli, (*m.*), 14, *Fitter's coolie.*	Coal	The deceased whilst waiting in the dark while the fitter went for lights (their lights having become extinguished) wandered into some adjacent old workings that were fenced off and hot and partly filled with vapour. He died soon after being found. Probably from exhaustion and fright. Inspection and inquiry made.
96	20th March, 2-45 P.M.	Mayo Mine, Khewra P. O., Jhelum, Panjab.	Government of India.	Hussan Bibi, (*f.*), 70, *Carrier.*	Salt	She slipped while walking up the travelling way and a loaded truck which was following her came up just then and pushed her a distance of about 19 ft. injuring her so severely that she died the next day.
97	1st July, 3 P.M.	Kabulayatkatti Mine, Kabulayatkatti P. O., Dharwar, Bombay.	Dharwar Reefs Co., Ld.	Periathumby, (*m.*), 30, *Blaster's assistant.*	Gold	Deceased had climbed a ladder in the stope to a height of about 35', carrying clay for the blaster, when he slipped and fell. He was injured so seriously that he died a short while after.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Cause of accident and remarks.
			ABOVE GROUND.			
			By surface machinery—(*2 deaths*).			
98	7th June, 3-30 A.M.	Chowrasi Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Baneshwar Mullick, (*m.*), 35, *Wagon-trimmer.*	Coal	The deceased was leaning forward clearing off the coal from the "balance plate" which it had failed to deliver into the wagon, when it swung up and flung him backwards into the wagon. He died almost immediately. Inspection and inquiry made.
99	16th November, 11 A.M.	Gopalichak Mine, Jharia P. O., Manbhum, Bengal.	Gopalichak Coal Co., Ld.	Fagu Rajwar, (*m.*), 22, *Surface Coolie.*	Coal	He was sitting eating his food on the handle of a hand-crane when the pawl suddenly slipped and the handle struck him on the head. Inspection and inquiry made. *See Report, page 11.*
			On surface railways and tramways belonging to the mine—(*1 death*).			
100	1st October, 3-30 A.M.	Steam tramway on the Tumsur-Katangi Road.	Central India Mining Co., Ld.	Lakhan, (*m.*), 17, *Locomotive Oiler.*	Manganese	The man was apparently asleep on the platform of an intermediate brake wagon and fell off on to the track while the train was in motion and a truck passed over both thighs. He died about five hours later.
			Miscellaneous on surface—(*6 deaths*).			
101	16th February, 4 P.M.	Jogta Mine, Sijua P. O., Manbhum, Bengal.	Agabeg Bros.	Bhatni Barhin, (*f.*), 12, *nil,* Bhiku Passi, (*m.*), 14, *Coal-carrier.*	Coal	An area, measuring 315′ × 262′, suddenly subsided, after giving warnings, unfortunately unheeded, for about three hours. Six men and two boys went down with one hut. All were got out alive except Bhiku. The girl went down with another hut, in which she was lying ill. *See Report, page 11.* Inspection and inquiry made.
102	26th April, 1 A.M.	Mahalichuah Mine, Giridih P. O., Hazaribagh, Bengal.	E. Myers.	Abdul Meah, (*m.*), 36, *Timberman.*	Coal	While running to get out of the way of some earth that was subsiding over an old mine he fell over some stones and injured himself so severely that he died later on. Inspection and inquiry made.
103	5th June, 10 A.M.	Sudreadih Mine, Nowagarh P. O., Manbhum, Bengal.	Sudreadih Coal Co., Ld.	Jalpi Meah, (*m.*), 18, *Fireman.*	Coal	In order to repair a gauge-glass leak, he attempted to shut the lower cock by striking it, instead of getting up to it to turn it. In striking he broke the gauge-glass and a piece of the glass entered his arm. He died from hæmorrhage and shock four hours later. Inspection and inquiry made.
104	23rd and 24th December. Between 10 P.M. and 2 A.M.	Dishagarh Mine, Dishargarh P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Hello Sheik, (*m.*), 26, *Engineman.*	Coal	Cause unknown, but apparently fell down a hole 18″ wide in which a large fly-wheel worked. The hole was fenced except a little at one side, and the deceased was found about 9 feet from the wheel quite dead. Inspection and inquiry made.
105	30th December, 11-30 A.M.	Madhabpur Mine, Raniganj P. O., Burdwan, Bengal.	Imperial Coal Co., Ld.	Kartic Akorea, (*m.*), 22, *Coolie.*	Coal	Deceased and two other coolies were breaking down old brick walls when a portion fell on the top of him killing him. Inspection and inquiry made.

APPENDIX I—*contd.*

Fatal Accidents, 1907—*contd.*

Serial number.	Date and hour of accident.	Name and situation of mine.	Name of owner.	Name, sex, age, and occupation of person killed.	Name of mineral worked.	Reason for exclusion.	Cause of accident and remarks.
			DEATHS NOT INCLUDED IN THE STATISTICS—(*12 deaths*).				
1	9th February, 9 A.M.	On broad gauge main line opposite Jogitand wharf.	East Indian Railway Co.	Nemia Jolin, (*f.*), 50.	Coal	Not employed.	The deceased who was said to be very deaf was walking alongside the railway line and attempted to cross just when the engine came near her and was run over.
2	4th May, 12-30 P.M.	Phularibad Mine, Jharia P. O., Manbhum, Bengal.	Khas Jharia Coal Co.	Brihaspati Bhuia, (*m.*), 8.	Coal	Not employed.	While shunting was in progress the boy attempted to cross the railway lines and his left leg was run over. He died on the 24th May.
3	11th July ?	Mosila Mine, Asansol P. O., Burdwan, Bengal.	Ghusic and Musila Collieries, Ld.	Jadu Kurmi, (*m.*), 30, *Coolie.*	Coal	Cause of accident not known.	Found drowned. Probably went to bathe and fell in.
4	26th July, 7 A.M.	Kustore Mine, Kusunda P. O., Manbhum, Bengal.	Raniganj Coal Association, Ld.	Bhattu Meah, (*m.*), 12.	Coal	Not employed.	Run over and killed by an engine and train of wagons. Inspection and enquiry made.
5	17th August, 6 A.M.	Baraboni Mine, Asansol P. O., Burdwan, Bengal.	Baraboni Coal Concern, Ld.	Niroda Domin, (*f.*), 13.	Coal	Not employed.	Whilst she was sleeping near the winding engine, a wooden plug, used for the drain cock which had been stolen, blew out, and she was scalded so severely by the escaping steam that she died two days later. Inspection and inquiry made.
6	22nd September, 9-30 A.M.	Kuordih Mine, Kalipahari P. O., Burdwan, Bengal.	Kuordih Coal Co., Ld.	Moti Bauri, (*m.*), 2.	Coal	Not employed.	Run over by a tub whilst playing on the line. He died some days later. Inspection and inquiry made.
7	5th November, 8 A.M.	Gararia Mine, Kusunda P. O., Manbhum, Bengal.	Ramji Bechar Das.	Sohadaria Kurmini, (*f.*), 22.	Coal	Not employed.	She was found drowned in an old incline where there was upwards of 7 feet of water. Inspection and inquiry made.
8	10th November, 7 A.M.	Napara Mine, Asansol P. O., Burdwan, Bengal.	Banwari Lal Mukherji.	Santosh Kumar Raha, (*m.*), 30, *Cashier.*	Coal	Not an accident.	The deceased committed suicide by jumping down the shaft. The shaft was fenced. Inspection and inquiry made.
9	16th November, 9-30 A.M.	Jamuria Mine, Nandi P. O., Burdwan, Bengal.	Equitable Coal Co., Ld.	Mohendry Kora, (*f.*), 8.	Coal	Not employed.	She went down the incline with her mother and was standing at the bottom when a loaded tub ran down and struck and killed her. Inspection and inquiry made.
10	22nd November, 6-30 P.M.	Jairamdanga Mine, Asansol P. O., Burdwan, Bengal.	New Beerbhum Coal Co., Ld.	Foodni, (*f.*), 28.	Coal	Not employed.	Fell through a partial gap in the fencing of an air-shaft. Inspection and inquiry made.
11	25th December, 2-15 A.M.	Bhuggutdih Mine, Dhanbaid P. O., Manbhum, Bengal.	Bengal-Nagpur Coal Co., Ld.	Bhabi Rai, (*f.*), 45, *Coal-carrier.* Sonna Rai, (*m.*), 8.	Coal	Not a mine accident.	They were sleeping in a hut which caught fire and presumably could not open the door before they were burnt or suffocated. Inspection and inquiry made.

APPENDIX II.

Table No. 1.

Indian Mines Act, 1901, Numbers of Mines and Workers, year 1907.

Province.	District and Mineral field.	Number of mines under the scope of the Act.	Number of mines.		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above ground.
							Below ground.				Above ground.				
			Worked by steam.	Not worked by steam.	Once.	Twice or more.	Adult males.	Adult females.	Children (under 12).	Total below ground.	Adult males.	Adult females.	Children (under 12).	Total above ground.	
							A.—COAL.								
Bengal	Hazaribagh, Giridih	8	5	3	5	1	3,212	1,329	35	4,576	1,907	1,049	96	3,052	7,628
	Manbhum, Jharia	184	102	82	45	26	18,534	13,078	506	32,118	11,605	5,510	1,097	18,212	50,330
	Manbhum, Raniganj	42	22	20	4	2	2,600	1,048	23	3,671	1,207	711	20	1,938	5,609
	Bankura "	1	...	1	1	...	20	17	...	37	3	5	...	8	45
	Burdwan "	130	119	11	57	42	14,699	6,069	256	21,024	6,561	4,047	288	10,896	31 920
	Sonthal Parganas, Raniganj.	2	...	2	...	...	18	5	...	23	...	...	...	...	23
	Sonthal Parganas, Rajmahal.	3	...	3	...	...	2	8	...	31	8	4	...	12	43
	Palamau, Daltonganj	2	1	1	...	1	259	142	33	434	232	30	7	269	703
	TOTAL	372	249	123	112	72	39,365	21,696	853	61,914	21,523	11,356	1,508	34,387	96,301
Central Provinces.	Chhindwara, Pench Valley.	3	3	...	3	...	257	128	...	385	91	25	10	126	511
	Narsinghpur, Mohpani.	1	1	...	...	1	416	137	...	553	356	70	...	426	979
	Chanda, Ballarpur	1	1	...	...	1	220	...	...	220	109	...	...	109	329
	TOTAL	5	5	...	3	2	893	265	...	1,158	556	95	10	661	1,819
Panjab	Jhelum	14	1	13	...	...	1,000	...	6	1,006	599	...	14	613	1,619
	Shahpur	4	...	4	...		33	...	...	33	26	...	...	26	59
	Mianwali	1	...	1	...	...	80	...	...	80	33	1	2	36	116
	TOTAL	19	1	18	...	...	1,113	...	6	1,119	658	1	16	675	1,794
Eastern Bengal and Assam.	Lakhimpur	5	5	...	...	...	752	362	...	1,114	372	211	19	602	1,716
	Sibsagar, Dikhu Valley.	1	...	1	...	...	8	...	...	8	4	3	...	7	15
	TOTAL	6	5	1	...	...	760	362	...	1,122	376	214	19	609	1,731
Baluchistan	Sibi, Khost	1	1	...	...	...	446	..	...	446	245	...	15	260	706
	Quetta, Sor Range	5	...	5	...	...	131	...	...	131	23	...	...	23	154
	Kalat, Mach and Digari.	5	...	5	...	...	139	...	2	141	27	...	4	31	172
	Loralai, Loralai	1	...	1	...	...	9	...	...	9	3	...	...	3	12
	TOTAL	12	1	11	...	...	725	...	2	727	298	...	19	317	1,044
	GRAND TOTAL (COAL).	414	261	153	115	74	42,856	22,323	861	66,040	23,411	11,666	1,572	36,649	102,689
							B.—MICA.								
Bengal	Monghyr	34	...	34	...	...	176	111	..	287	78	77	10	165	452
	Hazaribagh	268	...	268	2	...	3,563	1,170	173	4,906	1,161	1,428	1,251	3,840	8,746
	Gaya	34	..	34	...	...	693	349	22	1,064	206	103	112	421	1,485
	TOTAL	336	...	336	2	...	4,432	1,630	195	6,257	1,445	1,608	1,373	4,426	10,683
Madras	Nellore	128	...	128	36	...	2,387	1,963	227	4,577	718	879	947	2,544	7,121
	Nilgiris	2	...	2	...	...	29	...	2	31	2	...	...	2	33
	TOTAL	130	...	130	36	...	2,416	1,963	229	4,608	720	879	947	2,546	7,154
Rajputana	Ajmer-Merwara	6	...	6	1	...	47	16	6	69	55	19	3	77	146
	GRAND TOTAL (MICA).	472	...	472	39	...	6,895	3,609	430	10,934	2,220	2,506	2,323	7,049	17,983

APPENDIX II—*contd.*

Table No. I—*contd.*

Indian Mines Act, 1901, Numbers of Mines and Workers, year 1907.

Province.	District and Mineral field.	Number of mines under the scope of the Act.	Number of mines		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above ground.
							Below ground.				Above ground.				
			Worked by steam.	Not worked by steam.	Once.	Twice or more.	Adult males.	Adult females.	Children (under 12).	Total below ground.	Adult males.	Adult females.	Children (under 12).	Total above ground.	
							C.—MANGANESE.								
Central Provinces	Nagpur	23	2	21	13	...	2,299	185	90	3,574	200	141	9	350	3,924
	Bhandara	11	...	11	5	...	1,138	718	3	1,859	249	122	...	371	2,230
	Balaghat	13	...	13	...	1	1,407	822	46	2,275	224	112	52	388	2,663
	Chhindwara	3	...	3	...	...	93	70	1	164	113	139	...	252	416
	TOTAL	50	2	48	18	1	4,937	2,795	140	7,872	786	514	61	1,361	9,233
Madras	Vizagapatam	48	4	44	2	...	4,703	2,198	212	7,113	735	508	63	1,306	8,419
Bombay	Panch Mahals	1	...	1	...	...	826	193	80	1,099	...	...	...	...	1,099
	GRAND TOTAL (MANGANESE).	**99**	**6**	**93**	**20**	**1**	**10,466**	**5,186**	**432**	**16,084**	**1,521**	**1,022**	**124**	**2,667**	**18,751**
							D.—LIMESTONE.								
Central Provinces	Jabalpur, Katni	20	1	19	20	...	747	1,185	75	2,007	423	511	52	986	2,993
Punjab	Hoshiarpur	1	...	1	...	...	20	...	...	20	40	...	...	40	60
	GRAND TOTAL (LIMESTONE).	**21**	**1**	**20**	**20**	...	**767**	**1,185**	**75**	**2027**	**463**	**511**	**52**	**1,026**	**3,053**
							E.—SALT.								
Punjab	Shahpur	1	...	1	...	...	26	30	...	56	17	...	...	17	73
	Jhelum	2	...	2	...	...	367	339	52	758	46	...	...	46	804
	Mianwali	1	...	1	...	...	53	...	...	53	...	...	...	...	53
	GRAND TOTAL (SALT)	**4**	...	**4**	...	...	**446**	**369**	**52**	**867**	**63**	...	...	**63**	**930**
							F.—GEMS.								
Burma	Mogok (Rubies, etc.)	6	...	6	...	...	91	...	...	91	2,097	...	...	2,097	2,188
							G.—SLATE.								
Bengal	Monghyr	5	...	5	5	...	162	97	...	259	80	46	...	126	385
Punjab	Gurgaon	3	...	3	...	...	51	...	19	70	199	...	17	216	286
	GRAND TOTAL (SLATE).	**8**	...	**8**	**5**	...	**213**	**97**	**19**	**329**	**279**	**46**	**17**	**342**	**671**
							H.—GOLD.								
Bombay	Dharwar	10	...	10	4	1	1,550	...	...	1,550	1,072	297	124	1,493	3,043
Madras	Nilgiris	1	...	1	...	...	31	...	...	31	53	...	...	53	84
	Anantapur	1	...	1	...	...	197	...	...	197	104	19	7	130	327
	TOTAL	2	...	2	...	...	228	...	...	228	157	19	7	183	411
	GRAND TOTAL (GOLD).	**12**	...	**12**	**4**	**1**	**1,778**	...	...	**1,778**	**1,229**	**316**	**131**	**1,676**	**3,454**

APPENDIX II—*contd.*

Table No. I—*concld.*

Indian Mines Act, 1901, Numbers of Mines and Workers, year 1907.

Province.	District and Mineral field.	Number of mines under the scope of the Act.	Number of mines.		Number of mines inspected during the year.		Average number of persons employed daily in and about the mines.								Grand Total below and above ground.
							Below ground.				Above ground.				
			Worked by steam.	Not worked by steam.	Once.	Twice or more.	Adult males.	Adult females.	Children (under 12).	Total below ground.	Adult males.	Adult females.	Childern (under 12).	Total above ground.	
							I.—IRON ORE								
Central Provinces	Jabalpur	1	...	1	...	...	12	40	10	62	2	4	...	6	68
Bengal	Singhbhum	3	...	3	...	...	...	...	...	...	200	100	...	300	300
	GRAND TOTAL (Iron Ore)	**4**	...	**4**	...	...	**12**	**40**	**10**	**62**	**202**	**104**	...	**306**	**368**
							J.—MAGNESITE.								
Madras	Salem	1	...	1	...	...	23	41	...	64	...	...	...	...	64
							K.—CHROMITE.								
Baluchistan	Quetta-Peshin	4	1	3	...	...	28	...	...	28	34	...	...	34	62
							L.—COPPER.								
Central Provinces	Jabalpur	1	1	...	...	...	46	...	...	6	10	37	...	47	93
Bengal	Singhbhum	1	1	...	...	...	60	...	...	60	150	50	...	200	260
	GRAND TOTAL (Copper)	**2**	**2**	...	...	...	**106**	...	...	**106**	**160**	**87**	...	**247**	**353**
							M.—JADE.								
Burma	Myitkyina	3	...	3	...	...	406	...	...	406	950	...	...	950	1,356
							N.—LEAD.								
Central Provinces	Jabalpur	1	...	1	...	...	8	...	...	8	4	8	...	12	20
							O.—TIN.								
Burma	Mergui	6	...	6	...	...	...	...	...	...	41	...	...	41	41
	GRAND TOTAL (ALL MINES).	**1,057**	**271**	**786**	**203**	**76**	**64,095**	**32,850**	**1,879**	**98,824**	**32,674**	**16,266**	**4,219**	**53,159**	**151,983**

APPENDIX II—*contd.*

Table No. 2.

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mines Act, 1901, during the year 1907.

Province.	District and Mineral field.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths. Below ground.	Above ground.	Total deaths.	Number of serious non-fatal accidents.	Number of persons seriously injured. Below ground.	Above ground.	Total number of persons injured.	Death-rate per 1,000 persons employed. Below ground.	Above ground.	Below and above ground.
			Tons.		**A.—COAL.**									
Bengal	Hazaribagh, Giridih	7,628	750,374	2	1	1	2	25	19	6	25	·21	·32	·26
	Manbhum, Jharia	50,330	5,179,185	32	31	4	35	27	20	11	31	·96	·21	·69
	Manbhum, Raniganj	5,609	474,299	4	7	...	7	1	2	...	2	1·90	...	1·24
	Bankura, „	45	6,254	..	...	...	...	...	...	...	...	...	...	...
	Burdwan, „	31,920	3,499,482	26	25	3	28	25	20	5	25	1·18	·27	·87
	Sonthal Parganas, „	23	1,624	...	...	...	...	...	...	...	...	...	...	...
	„ „ Rajmahal	43	257	...	...	...	...	...	...	...	...	...	...	...
	Palamau, Daltonganj	703	81,873	1	2	...	2	...	...	...	...	4·60	...	2·84
	TOTAL	96,301	9,993,348	65	66	8	74	78	61	22	83	1·06	·23	·76
Central Provinces	Chhindwara, Pench Valley	511	74,663	3	3	...	3	2	2	...	2	7·79	...	5·87
	Narsinghpur, Mohpani	979	41,322	...	...	...	...	...	...	...	...	...	...	...
	Chanda, Ballarpur	329	18,103	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	1,819	134,088	3	3	...	3	2	2	...	2	2·59	...	1·64
Panjab	Jhelum	1,619	47,298	1	1	...	1	4	3	1	4	·99	...	·61
	Shahpur	59	12,686	...	...	...	...	...	...	...	...	...	...	...
	Mianwali	116	765	..	...	...	...	...	...	...	...	...	...	...
	TOTAL	1,794	60,749	1	1	...	1	4	3	1	4	·89	...	·55
Eastern Bengal and Assam.	Lakhimpur	1,716	295,695	9	9	...	9	3	3	...	3	8·07	...	5·24
	Sibsagar, Dikhu Valley	15	100	...	..	..	...	...	...	...	...	...	...	...
	TOTAL	1,731	295,795	9	9	...	9	3	3	...	3	8·02	...	5·19
Baluchistan	Sibi, Khost	706	29,378	1	1	...	1	2	2	...	2	2·24	...	1·41
	Quetta, Sor Range	154	7,517	1	1	...	1	...	...	...	...	7·63	...	6·49
	Kalat, Mach and Digari	172	5,393	...	...	...	...	...	...	...	...	...	...	...
	Loralai, Loralai	12	200	..	...	...	..	...	...	...	...	...	...	...
	TOTAL	1,044	42,488	2	2	...	2	2	2	...	2	2·75	...	1·91
	GRAND TOTAL (COAL)	102,689	10,526,468	80	81	8	89	89	71	23	94	1·22	·21	·86
			Cwt.		**B.—MICA.**									
Bengal	Monghyr	452	731	2	3	...	3	...	...	...	...	10·45	...	6·63
	Hazaribagh	8,746	22,212	4	8	...	8	...	...	...	...	1·63	...	·91
	Gaya	1,485	5,636	1	1	...	1	...	...	...	...	·93		·67
	TOTAL	10,683	28,579	7	12	...	12	...	...	...	...	1·91	...	1·12
Madras	Nellore	7,121	15,645	...	...	...	...	2	4	...	4	...	...	...
	Nilgiris	33	...	..	.	...	...	...	...	...	...	...	...	...
	TOTAL	7,154	15,645	...	...	...	...	2	4	...	4	...	...	...
Rajputana	Ajmer-Merwara	146	695	1	1	...	1	...	...	...	...	14·49	...	6·84
	GRAND TOTAL (MICA)	17,983	44,919	8	13	...	13	2	4	...	4	1·18	...	·72
			Tons.		**C.—MANGANESE ORE.**									
Central Provinces	Nagpur	3,924	181,875	4	3	1	4	9	1	8	9	·83	2·85	1·01
	Bhandara	2,230	141,183	...	...	...	...	...	...	...	...	...	...	...
	Balaghat	2,663	161,047	...	...	...	...	...	...	...	...	...	...	...
	Chhindwara	416	12,468	...	...	...	...		...			...	...	...
	TOTAL	9,233	496,573	4	3	1	4	9	1	8	9	·38	·73	·43
Madras	Vizagapatam	8,419	125,820	...	...	...	...	1	...	1	1	...	...	...
Bombay	Balgaum	...	...	...	...	...	...	...	...	...	...	...	...	...
	Panch Mahals	1,099	19,689	...	...	...	...	...	...	...	...	...	...	...
	TOTAL	1,099	19,689	...	..	...	...	...	...	..	...	...	...	...
	GRAND TOTAL (MANGANESE)	18,751	642,082	4	3	1	4	10	1	9	10	·18	·37	·21

APPENDIX II—*contd.*

Table No. 2—*concld.*

Classified statement of fatal and serious accidents in and about mines regulated by the Indian Mines Act, 1901, during the year 1907.

Province.	District and Mineral fields.	Total average number of persons employed daily.	Total output.	Number of separate fatal accidents.	Number of deaths. Below ground.	Number of deaths. Above ground.	Number of deaths. Total deaths.	Number of serious non-fatal accidents.	Number of persons seriously injured. Below ground.	Number of persons seriously injured. Above ground.	Number of persons seriously injured. Total number of persons injured.	Death-rates per 1,000 persons employed. Below ground.	Death-rates per 1,000 persons employed. Above ground.	Death-rates per 1,000 persons employed. Below and above ground.
			D.—LIMESTONE.											
Central Provinces	Jabalpur, Katni	2,993	Tons. 72,022	...	...	...	...	2	1	1	2	...	...	...
Panjab	Hoshiarpur	60	1,200	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (LIMESTONE)	3,053	73,222	...	...	...	...	2	1	1	2	...	...	...
			E.—SALT.											
Panjab	Shahpur	73	6,492	...	...	...	...	...	...	...	...	...	...	...
	Jhelum	804	84,462	1	1	...	1	3	2	1	3	1·31	...	1·24
	Mianwali	53	10,749	...	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (SALT)	930	101,703		1	...	1	3	2	1	3	1·15	...	1·07
			F.—GEMS.											
Burma	Mogok (Rubies, etc.)	2,188	Carats. 296,125	2	3	...	3	5	1	4	5	32·96	...	1·36
			G.—SLATE.											
Bengal	Monghyr	385	Tons. 2,286	...	...	...	...	5	1	4	5	...	...	...
Panjab	Gurgaon	286	2,684	...	...	...	...	1	...	1	1	...	...	...
	GRAND TOTAL (SLATE)	671	4,970	...	...	...	...	6	1	5	6	...	...	..
			H.—GOLD.											
Bombay	Dharwar	3,043	Oz. 4,017	8	9	...	9	4	4	...	4	5·80	...	2·95
Madras	Nilgiris	84	...	...	...	...	...	...	...	...	...	...	...	...
	Anantapur	327	...	2	3	...	3	...	...	...	...	15·22	...	9·17
	TOTAL	411	4,017	2	3	...	3	...	...	...	...	13·15	...	7·29
	GRAND TOTAL (GOLD)	3,454	4,017	10	12	...	12	4	4	...	4	6·74	...	3·47
			I.—IRON ORE.											
Central Provinces	Jabalpur	68	Tons. 400	...	...	...	...	...	...	...	...	...	...	
Bengal	Singhbhum	300	1,136	..	...	...	...	...	...	...	...	...	...	...
	GRAND TOTAL (IRON ORE)	368	1,536	...	...	...	...	...	...	...	...	...	...	...
			J.—MAGNESITE.											
Madras	Salem	64	186	...	...	...	...	...	...	...	...	...	...	...
			K.—CHROMITE.											
Baluchistan	Quetta-Peshin	62	Cwt. 771,206	...	...	...	..	...	...	...	...	...	...	...
			L.—COPPER.											
Central Provinces.	Jabalpur	93	...	...	...	...	...	...	...	...	...	...	...	...
Bengal	Singhbhum	260	...	...	...	...	...	...	...	...	...	...	...	...
	TOTAL (COPPER)	353	...	...	...	...	...	...	...	...	...	...	...	...
			M.—JADE.											
Burma	Myitkyina	1,356	Cwt. 3,591	...	...	...		..	...	...	...	...	...	...
			N.—LEAD.											
Central Provinces.	Jabalpur	20		...	...	...	...	...	...	...	...	...	...	...
			O.—TIN.											
Burma	Mergui	41	Cwt. 273	...		...	...	...	...	...	...	...	...	...
	GRAND TOTAL (ALL MINERALS).	151,983	Tons. 11,350.167 Carats. 296,125 Cwt. 819,988 Oz. 4,017	105	113	9	122	121	85	43	128	1·14	·16	·80

APPENDIX II—*contd.*

Table No. 3.

The following table is a summary of the average number of persons working daily in and about mines regulated by the Indian Mines Act, 1901, during the year 1907.

Province.	Average number of persons working daily in and about mines getting						
	Coal.	Mica.	Manganese.	Limestone.	Salt.	Other minerals.	Total persons.
Bengal	96,301	10,683	...	...	...	945	107,929
Central Provinces	1,819	...	9,233	2,993	...	181	14,226
Madras	...	7,154	8,419	...	...	475	16,048
Eastern Bengal and Assam	1,731	...	..	...	...	...	1,731
Baluchistan	1,044	...	...	...	...	62	1,106
Panjab	1,794	...	...	60	930	286	3,070
Burma	...	...	...	...	...	3,585	3,585
Bombay	...	...	1,099	...	...	3,043	4,142
Rajputana	...	146	...	...	...	...	146
Total 1907	102,689	17,983	18,751	3,053	930	8,577	151,983
Total in preceding year.	90,159	15,984	11,273	1,901	1,170	8,179	128,666
Difference	+12,530	+1,999	+7,478	+1,152	−240	+398	+23,317

Table No. 4.

Quantity of Mineral Raised.

The following short summary shows the output of the principal minerals from mines regulated by the Indian Mines Act, 1901, for the year 1907.

Province.	Coal.	Manganese Ore.	Mica.	Limestone.	Salt.
	Statute Tons.	Statute Tons.	Statute Cwts.	Statute Tons.	Statute Tons.
Bengal	9,993,348	...	28,579	...	...
Central Provinces	134,088	496,573	...	72,022	...
Madras	...	125,820	15,645	...	...
Eastern Bengal and Assam	295,795	...	...	...	...
Baluchistan	42,488	...	...	...	...
Panjab	60,74	...	...	1,200	101,703
Rajputana	...	...	695	...	...
Bombay	...	19,689	...	...	...
Burma	...	...	...	...	...
Total in 1907	10,526,468	642,082	44,919	73,222	101,703
Total in preceding year	9,112,663	436,442	50,438	48,836	118,023
Difference	+1,413,805	+205,640	−5,519	+24,386	−16,320

APPENDIX II—*contd.*

Table No. 5.

The following table shows the average number of persons working daily in and about mines regulated by the Indian Mines Act, 1901, during the years 1906 and 1907.

ALL MINES UNDER THE ACT.

Description of workers.	Year 1906.	Year 1907.	Difference.
	Below ground.	Below ground.	Below ground.
Adult Males	53,817	64,095	+10,278
Adult Females	24,921	32,850	+7,929
Children under 12	1,420	1,879	+459
TOTAL BELOW GROUND	80,158	98,824	+18,666
	Above ground.	Above ground.	Above ground.
Adult Males	29,236	32,674	+3,438
Adult Females	14,661	16,266	+1,605
Children under 12	4,611	4,219	—392
TOTAL ABOVE GROUND	48,508	53,159	+4,651
TOTAL BELOW AND ABOVE GROUND	128,666	151,983	+23,317

ALL COAL-MINES UNDER THE ACT.

Description of workers.	Year 1906.	Year 1907.	Difference.
	Below ground.	Below ground.	Below ground.
Adult Males	40,352	42,856	+2,504
Adult Females	19,121	22,323	+3,202
Children under 12	865	861	—4
TOTAL BELOW GROUND	60,338	66,040	+5,702
	Above ground.	Above ground.	Above ground.
Adult Males	18,846	23,411	+4,565
Adult Females	9,422	11,666	+2,244
Children under 12	1,553	1,572	+19
TOTAL BELOW GROUND	29,821	36,649	+6,828
TOTAL BELOW AND ABOVE-GROUND	90,159	102,689	+12,530

Table No. 6.

The following table shows the fluctuations in the output of the principal minerals raised from mines classed under the Indian Mines Act, 1901. The other minerals raised are gems, slate, gold, iron ore, magnesite, chromite, tin and jade.

Year.	Coal.	Manganese Ore.	Mica.	Limestone.	Salt.
	Tons.	Tons.	Cwts.	Tons.	Tons.
1899	4,622,242	87,126	10,860	1,177	78,754
1900	5,452,408	92,458	18,320	...	79,996
1901	6,251,522	162,057	19,900	28,000	90,242
1902	6,790,507	144,037	21,360	30,091	87,361
1903	6,812,725	171,223	20,100	35,238	90,667
1904	7,561,338	138,733	21,320	50,847	107,413
1905	7,770,471	204,194	25,548	93,170	94,078
1906	9,112,663	436,442	50,438	48,836	118,023
1907	10,526,468	642,082	44,919	73,222	101,703

APPENDIX II—*contd.*

Table No. 7.

The following table shows the amount of coal raised, the average number of persons working daily and the death-rates during the years 1899 to 1907 in respect of coal mines under the Indian Mines Act, 1901.

Year.	Amount of coal raised.	Average number of persons working daily below and above ground.	Number of deaths below and above ground.	Death-rates.	
				Per 1,000,000 tons raised.	Per 1,000 persons working daily below and above ground.
1899 . . .	4,622,242	65,795	73	15·79	1·11
1900 . .	5,452,408	80,003	52	9·53	·64
1901 . . .	6,251,522	85,361	58	9·28	·67
1902 . . .	6,790,507	89,503	59	8·69	·66
1903 . . .	6,812,725	79,561	67	9·83	·84
1904 . . .	7,561,338	82,002	55	7·27	·67
1905 . . .	7,770,471	79,506	58	7·46	·72
1906 . . .	9,112,663	90,159	80	8·78	·89
1907 . . .	10,526,468	102,689	89	8·45	·86

Table No. 8.

Statement showing the output of coal, the number of persons employed and the number of tons of coal raised per person employed in and about the coal mines of the principal coal-producing countries of the world.

Year.	Countries.	Tons of coal raised.	Persons employed.	Tons raised per person employed.
1906	United Kingdom . . .	251,067,628	867,152	289
1905	United States . . .	384,598,643	626,315	614
„	Germany	171,017,283	548,277	311
„	Austria . . .	34,710,381	119,261	291
„	France	34,652,229	175,104	197
„	Belgium	21,775,280	134,747	161
„	Nova Scotia . . .	5,050,420	10,780	468
„	British Columbia . . .	1,384,312	4,407	314
„	Australia	7,495,956	14,019	534
„	Natal	1,129,407	5,650	199
„	Transvaal	2,606,799	8,988	290
„	Japan	11,356,543	78,477	144
1903	Russia	17,581,324	105,774	166
	Totals and average . .	944,426,205	2,698,951	349
1907	**British India . . .**	**10,526,468**	**102,689**	**102**

APPENDIX II—*contd.*

Table No. 9.

Fatal accidents and deaths in mines regulated by the Indian Mines Act, 1901, during the year 1907, classified according to the mineral worked.

Mineral.	Province and Mineral area.	Number of separate fatal accidents.	Number of Deaths.								Total below and above ground.
			Below ground.				Above ground.				
			Adult males.	Adult females.	Children (under 12).	Total.	Adult males.	Adult females.	Children (under 12).	Total.	
Coal	Baluchistan	2	2	...	...	2	...	...	...	...	2
	Bengal — Daltongunge	1	2	...	...	2	...	...	...	...	2
	Bengal — Giridih	2	...	1	...	1	1	...	...	1	2
	Bengal — Jharia	36	34	4	...	38	3	1	...	4	42
	Bengal — Raniganj	26	21	4	...	25	3	...	...	3	28
	Total (Bengal)	65	57	9	...	66	7	1	...	8	74
	Central Provinces	3	2	1	...	3	...	...	...	...	3
	Eastern Bengal and Assam	9	8	1	...	9	...	...	...	...	9
	Panjab	1	1	...	...	1	...	...	...	...	1
	Total Coal	80	70	11	...	81	7	1	...	8	89
Mica	Ajmer-Merwara	1	1	...	...	1	...	...	...	...	1
	Bengal	7	12	...	...	12	...	...	...	...	12
	Total Mica	8	13	...	...	13	...	...	...	...	13
Manganese	Central Provinces	4	3	...	...	3	1	...	...	1	4
Gems	Burma	2	3	...	...	3	...	...	...	...	3
Gold	Bombay	8	9	...	...	9	...	...	...	...	9
	Madras	2	3	...	...	3	...	...	...	...	3
	Total Gold	10	12	...	...	12	...	...	...	...	12
Salt	Panjab	1	...	1	...	1	...	...	...	...	1
Grand total, all minerals		105	101	12	...	113	8	1	...	9	122

APPENDIX II—*contd.*

Table No. 10.

Fatal accidents and deaths classified according to causes.

Causes of Accidents.	1907.				
	Number of separate accidents.	Deaths.			
		Adult males.	Adult females.	Children (under 12).	Total.
BELOW GROUND.					
Explosions of fire-damp.	3	5	...	...	5
Falls in Mines.					
Falls of roof	26	24	5	...	29
„ „ side	22	26	2	...	28
Total .	48	50	7	...	57
In Shafts.					
Ropes and chains breaking	1	1	...	...	1
Whilst ascending or descending by machinery .	2	3	...	...	3
Falling into the shaft from the surface . .	3	3	...	...	3
Falling from part of the way down . . .	7	7	...	...	7
Things falling from the surface . . .	2	2	...	...	2
Things falling from part of the way down .	2	2	...	...	2
Miscellaneous	3	2	1	...	3
Total .	20	20	1	...	21
Miscellaneous below ground.					
Suffocation by gases	2	2	...	...	2
By explosives	10	10	1	...	11
Irruptions of water or falling into water .	2	3	1	...	4
Haulage	9	9	1	...	10
Sundries underground	3	2	1	...	3
Total .	26	26	4	...	30
Total below ground .	97	101	12	...	113
ABOVE GROUND.					
By surface machinery	2	2	...	...	2
On surface railways and tramways . . .	1	1	...	...	1
Miscellaneous on surface	5	5	1	...	6
Total above ground .	8	8	1	...	9
Total below and above ground .	105	109	13	...	122

APPENDIX II—*contd.*

Table No. II.

ACCIDENTS, 1907.

Classified according to cause and mineral worked.

MINERAL WORKED.	Number of separate fatal accidents.	NUMBER OF PERSONS KILLED.											DEATH RATE PER 1,000 PERSONS EMPLOYED.		
		Explosions of fire-damp.	Falls of roof.	Falls of side.	In shafts.	Explosives.	Suffocation by gases.	Irruptions of water or falling into water.	Haulage.	Miscellaneous below ground.	Surface.	Total deaths.	Below ground.	Above ground.	Below and above ground.
Coal . . .	80	5	23	13	19	4	2	4	10	1	8	89	1·22	·21	·86
Mica . . .	8	...	3	6	1	3	...	...	...	...	...	13	1·18	...	·72
Manganese . .	4	...	...	3	...	...	...	...	...	...	1	4	·18	·37	·21
Gems . . .	2	...	...	2	...	...	...	...	..	...	...	3	32·96	...	1·36
Gold . . .	10	...	3	3	1	4	...	...	...	1	...	12	6·74	...	3·47
Salt . . .	1	...	...	...	...	...	...	...	...	1	...	1	1·15	...	1·07
Total, 1907 . .	105	5	29	28	21	11	2	4	10	3	9	122	1·14	·16	·80
Total, preceding year.	84	4	24	27	20	4	4	...	11	3	9	106	1·21	·19	·82
Difference . .	21	1	5	1	1	7	−2	4	−1	...	...	16	−·7	−·3	−·2

Table No. 12.

Statement of Prosecutions instituted under the Indian Mines Act (VIII of 1901) during the year ending 31st December 1907.

PROVINCE.	District.	Number of prosecutions.	Number of persons prosecuted.	Number convicted.	REMARKS.
Central Provinces .	Chhindwara .	1	1	1	Under section 22 (2) (*b*) of the Indian Mines Act, 1901.
Bengal . . .	Monghyr . .	1	1	1	Ditto.

APPENDIX II—*contd.*

Table No. 13.

Number of Inspections by District and other Officers, 1907.

District and Mineral area.	Number of mines inspected.		
	Once.	Twice.	More than twice.
COAL.			
Bengal—			
Burdwan, Palamau, Daltonganj, Sonthal Parganas, Rajmahal } Raniganj	4	...	...
	1	...	...
	...	...	...
Hazaribagh—Giridih	1	...	...
Manbhum—Jharia	3	...	...
	9	...	...
Eastern Bengal and Assam—Lakhimpur	1	...	...
Baluchistan	1	1	...
TOTAL AT COAL MINES	11	1	...
MICA.			
Bengal—Hazaribagh	2	...	...
Madras—Nellore	6	1	4
TOTAL AT MICA MINES	8	1	4
MANGANESE.			
Central Provinces — Balaghat	...	...	1
Central Provinces — Bhandara	2	...	...
Central Provinces — Nagpur	...	1	...
Central Provinces — Chhindwara	1	...	..
	3	1	1
Madras—Vizagapatam	1	...	...
Bombay—Panch Mahals	...	1	...
TOTAL AT MANGANESE MINES	4	2	1
LIMESTONE.			
Central Provinces	12	...	...
GEMS.			
Burma—Ruby Mines District	7	...	...
IRON ORE.			
Bengal—Singhbhum	3	...	...
GRAND TOTAL	45	4	5

APPENDIX II—*contd.*

Table No. 14.

Mines opened and closed during the year ending 31st December 1907.

Province.	District.	Number of mines opened.	Number of mines closed.
	A.—COAL		
BENGAL	Hazaribagh-Giridih	2	1
	Manbhum, Jharia	49	4
	„ Raniganj	14	1
	Burdwan „	8	2
	Santhal Parganas	...	2
	Palamau, Daltonganj	1	...
TOTAL		74	10
PANJAB	Mianwali	...	1
	Jhelum	8	2
TOTAL		8	3
CENTRAL PROVINCES	Chhindwara	2	...
BALUCHISTAN	Kalat	1	...
TOTAL (COAL)		85	13
	B.—MICA.		
BENGAL	Monghyr	...	...
	Hazaribagh	27	11
TOTAL		27	11
MADRAS	Nellore	25	17
RAJPUTANA	Ajmer-Merwara	1	2
TOTAL (MICA)		53	30

APPENDIX II—*concld.*

Table No. 14—*concld.*

Province.	District.	Number of mines opened.	Number of mines closed.
	C.—MANGANESE ORE.		
MADRAS	Vizagapatam	21	10
BOMBAY	Panch Mahals	1	...
CENTRAL PROVINCES	Nagpur	2	2
	Balaghat	1	1
	Bhandara	1	...
TOTAL		4	3
TOTAL (MANGANESE)		26	13
	D.—LIMESTONE.		
CENTRAL PROVINCES	Jabalpur	6	
	E.—LEAD.		
BENGAL	Sambalpur	1	1
	F.—GOLD.		
MADRAS	Nilgiris	...	1
BOMBAY	Dharwar	6	2
TOTAL (GOLD)		6	3
	G.—IRON.		
CENTRAL PROVINCES	Jabalpur	1	1
	H.—SLATE.		
PANJAB	Gurgaon	1	...
	I.—CHROMITE.		
BALUCHISTAN	Quetta-Peshin	4	1

APPENDIX III.

Table No. 1.

Inspections and enquiries made under Section 5 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December 1907.

Registered number.	Name of mine and description of land acquired.	Name of the owner of the mine.	Date of gazetted declaration.	Name of Inspector making the enquiry.
57	Bhowra Coal Mine— Bhowra Branch and siding, Midnapur-Jharia extension of the Bengal-Nagpur Railway.	Eastern Coal Co., Ld.	27th April 1907	G. F. Adams.
64	Sudamdih Coal Mine— Pathardih, link of the Bengal-Nagpur Railway.	Empire Coal Co., Ld.	.....	Ditto.
65	Puddugora Coal Mine— Bengal-Nagpur Railway Company's Station Mohoda.	Bengal Coal Co., Ld.	4th March 1907	Ditto.
68	Gobindpur Coal Mine— Katras-Khanudih extension of the Jharia Branch of the East Indian Railway.	Gobindpur Coal Syndicate.	12th April 1907	Ditto.
69	Banksimulla Coal Mine— Banskimulla siding, Toposi-Baraboni Branch of the East Indian Railway.	Bengal Coal Co., Ld.	13th May 1907	R. R. Simpson.
70	Bhowra Coal Mine— Bhowra Branch, Jharia connection line of the Bengal-Nagpur Railway.	Eastern Coal Co., Ld.	9th July 1907	G. F. Adams.
71	Bhaga Coal Mine— Bhaga Branch of the East Indian Railway and the Bhaga assisted siding.	Jharia Colliery Co., Ld.	12th September 1907	Ditto.
72	Baraboni and Jairamdanga Coal Mines— Bhuskajuri siding of the East Indian Railway.	New Beerbhum Coal Co., Ld.	15th July 1907	R. R. Simpson.
75	Kuordih Coal Mine— East Indian Railway Company's main line.	Kuordih Coal Co., Ld.	.....	W. T. Griffiths.
76	Tetturia Coal Mine— Katrasgarh-Khanudih extension of the Ikra Branch of the East Indian Railway.	West Tetturia Collieries Co.	10th October 1907	G. F. Adams.
77	Kustore Coal Mine— Bhaga Branch of the Bengal-Nagpur Railway and assisted sidings.	Raniganj Coal Association, Ld.	6th January 1908	Ditto.
78	Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway.	C. J. Smith	26th February 1908	Ditto.
80	Jealgora Coal Mine— Jealgora siding off the Damuda Branch of the East Indian Railway.	East Indian Coal Co., Ld.	17th March 1908	Ditto.
81	Lower Kusunda Coal Mine— North Kustore siding off the Damuda Branch of the East Indian Railway.	Kusunda and Nayadi Collieries, Ld.	.....	Ditto.
82	Hathgarooye Coal Mine— Sitarampur-Ikra Branch of the East Indian Railway.	Lutchipur Coal Co., Ld.	14th January 1908	James Grundy.
83	Kally Than Surataur Coal Mine— Surataur assisted siding of the East Indian Railway.	K. B. Seal	.....	G. F. Adams.
84	Mudidih Coal Mine— Sijua siding of the East Indian Railway.	Reliance Coal Co., Ld.	.....	Ditto.
85	Nuni Coal Mine— No. 6 Pit and Nuni siding of the East Indian Railway.	Baraboni Coal Concern, Ld.	29th April 1908	James Grundy.
86	Joba Coal Mine— East Indian Railway Company's siding between Raniganj and Kalipahari.	Eastern Coal Co., d.	9th March 1908	R. R. Simpson.

APPENDIX III—*contd.*

Table No. 2.

Inspections and enquiries made under Section 11 of the Land Acquisition (Mines) Act, 1885, during the year ending 31st December 1907.

Registered number.	Name of mine and description of land acquired.	Name of the owner of the mine.	Date of declaration.	Name of Inspector making the enquiry.
4	Benahir Coal Mine— Surataur siding of the East Indian Railway.	Standard Coal Co., Ld.	11th April 1908	G. F. Adams.
5	Dheriajoba Coal Mine— Jharia-Katras Branch and Damuda Branch of the East Indian Railway.	Jharia Coal Syndicate, Ld.	.....	Ditto.
9	Alkusa Coal Mine— Damuda Branch of the East Indian Railway and certain assisted sidings.	Raniganj Coal Association, Ld.	5th February 1908	Ditto.
12	Kusunda and Nayadi Coal Mine— Kustore siding and the Damuda Branch of the East Indian Railway.	Kusunda and Nayadi Collieries, Ld.	.....	Ditto.
13	Bhuskajuri Coal Mine— Bhuskajuri siding of the East Indian Railway.	Bhuskajuri Coal Co., Ld.	.....	James Grundy.
18	Bhuggutdih Coal Mine— Assisted siding of the East Indian Railway.	Bengal-Nagpur Coal Co., Ld.	.....	G. F. Adams.
23	Surataur (Kadmogora) Coal Mine— Surataur siding of the East Indian Railway.	P. K. Roy	.....	Ditto.
24	Sijua Coal Mine— East Indian Railway Company's siding	Sijua Coal Co., Ld.	2nd December 1907	Ditto.
34	Salanpur Coal Mine— Salanpur Branch of the East Indian Railway.	Borrea Coal Co., Ld.	.....	James Grundy.
35	Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway and assisted siding.	C. J. Smith	.....	G. F. Adams.
73	Raghunathbatty Coal Mine— Ikra Branch of the East Indian Railway.	Sudihi Coal Co., Ld.	.....	James Grundy.
74	Mugma Coal Mine— Pandra Branch, Jharia Branch of the East Indian Railway.	J. C. Dutt	23rd January 1908	Ditto.
78	Bagdiggi Coal Mine— Damuda Branch of the East Indian Railway.	C. J. Smith	26th February 1908	Ditto.
79	Lower Kusunda Coal Mine— North Kusunda siding, Damuda Branch of the East Indian Railway.	Kusunda and Nayadi Collieries, Ld.	.....	G. F. Adams.
84	Mudidih Coal Mine— Sijua siding of the East Indian Railway.	Reliance Coal Co., Ld.	13th May 1908	Ditto.
88	Ekra Khas Coal Mine— Extension of Ekra Khas siding of the East Indian Railway.	Maharaja M. C. Nandi	.....	Ditto.
89	Encroachment on land acquired for the Jinagora Branch of the East Indian Railway.	By Gova Petha & Co. and the East Barari Coal Co.	10th March 1908	Ditto.
90	South Baraboni Coal Mine— Ikra Branch of the East Indian Railway.	South Baraboni Coal Co.	25th April 1908	R. R. Simpson.

APPENDIX III—*contd.*

Table No. 3.

List of plans of abandoned and discontinued mines received during the year 1907.

Registered number.	Name and situation of mine.	Name and number of seam.	Name of mineral worked.	Name of owner.	Date of abandonment or discontinuance.
23	Budruchak Mine, Sijua P. O., Manbhum, Bengal.	No. 15 Top Seam	Coal	Sijua Coal Co., Ld.	March 1905.
24	Kessabganj Mine, Kalipahari P. O., Burdwan, Bengal.	Dobalia or Lower Kalipahari Seam.	Do.	G. M. Agreeable Coal Co.	March 1905.
25	New Baraboni Mine, Charanpur P. O., Burdwan, Bengal.	Baraboni Lower Seam.	Do	New Baraboni Coal Co.	November 1905.
26	New Nandi Mine, Nandi P. O., Burdwan, Bengal.	Nandi Seam	Do.	Sasi Bhusan Mukherji	28th February 1907.
27	No. 1 East Ara Mine, Katha Colliery, Abbottabad, Panjab.	Not named nor numbered.	Do	Panjab Coal Co.	December 1906.
28	Nalli Mine, Katha P. O., Shahpur, Panjab.	Not named nor numbered.	Do.	Malik Mohan Singh.	January 1907.
29	Pits Nos. 2 and 5, Ghusik Mine, Kalipahari P. O., Burdwan, Bengal.	Ghusik Seam	Do.	Baliram and Co.	1895.
29A	Pits Nos. 1 and 2, Srikistopur Mine, Kalipahari P. O., Burdwan, Bengal.	Ghusik Seam	Do.	Ditto	Pit No 1, about 1898. Pit No. 2, about 1905.
30	Incline No. 1, Napara Mine, Asansol P. O., Burdwan, Bengal.	Napara Top Seam	Do.	Maharaja M. C. Nandi	1905.
31	Jairamdanga Mine, Asansol P. O., Burdwan, Bengal.	Jairamdanga Upper Seam.	Do.	New Beerbhum Coal Co, Ld.	June 1903.
32	Pits Nos. 3, 34, 35, and 37, Dhadka Mine, Asansol P. O., Burdwan, Bengal.	Dhadka Seam	Do.	Ditto	June 1903.
33	Inclines Nos. 4 and 5, Kustore Mine, Kusunda P. O., Manbhum, Bengal.	No. 15 Seam	Do.	Raniganj Coal Association, Ld.	2nd August 1907.
34	Inclines Nos. 5, 6 and 9, Gararia Mine, Kusunda P. O., Manbhum, Bengal.	No. 9 Seam	Do.	Tribhuban Das Howji	14th September 1907.
35	Open quarry, Katras Mine, Katrasgarh P. O., Manbhum, Bengal.	No. 14 Seam	Do.	Katras Jharia Coal Co., Ld.	September 1907.

APPENDIX III—*contd.*

Table No. 4.

MINING COURSE AT THE SIBPUR CIVIL ENGINEERING COLLEGE.

Students are admitted to the special mining course who have passed the Sub-Overseer examination (requiring two years' work at the College), or an equivalent examination at some other technical college. The diploma is granted to successful students after a further two years which includes the special mining course, a detailed syllabus of which is appended.

The course of training undergone by the mining students also includes Mathematics, Physics, Chemistry, Surveying, Drawing, Engineering, and Workshops (practical). Detailed syllabuses of these courses are to be found in the College Calendar (Apprentice class).

A Bachelor of Engineering (Calcutta University) Degree in Mining is also under contemplation, the course to run parallel with the Bachelor of Engineering Degree courses in Civil, Mechanical, and Electrical Engineering.

The number of students taking the Mining Course at Sibpur College during the Session 1907-08 was thirteen, of whom five will sit for the Diploma examination in April 1908. These students all attended the Camp of Mine Surveying and Practical Mining, which was pitched at Gaurangdi during November and December 1907. A good sign is the demand in the coal-fields for passed students, which is considerably greater than the supply. All those who obtain diplomas this year have positions with good prospects assured to them, and those too who may fail to secure the diploma have been spoken for.

The new practical mining laboratory is now under way. The Professor of Mining, in consideration of the conditions of mining in Bengal, has designed the practical laboratory work with a special view to coal, — particularly washing, briquetting, and coking,—in which lines there is no doubt it will be most profitable for the students to specialise. Meanwhile they will assist in the erection of the laboratory, and the fitting of such machinery as has arrived.

DETAILED MINES SYLLABUS.

Course I.

Geology applied to Mining.— (One lecture per week.)

Stratified and unstratified rocks. Faults, foldings, etc. Work done by rivers and glaciers. Rock-forming minerals. Introduction to study of fossils. Principal rock formations and descriptive outline of corresponding fossils. Special reference to the geology of India. Mountain and river systems. Metamorphic rocks. Dravidian and Aryan groups. Coal-bearing formations. Laterite formation.

Geological maps and sections. Methods employed in their construction. Field geology.

Mining Engineering.—(Two lectures per week.)

Boring by hand and power machines. Lining boreholes. Speeds and costs of various methods of boring compared.

Sinking through alluvial ground. Bogey, dumping-chain, folding-doors. Shaft-walling. Sinking and walling simultaneously. Tubbing a shaft. Sinking through sands and gravel and watery strata. Piling method. Iron Drum and Kind-Chaudron methods. Freezing processes. Tiger's method.

Mechanical haulage. Jig bank. Direct haulage. Main and tail rope. Endless rope. Modes of application of power. Size of engine required for given work. Tensioning the rope.

Hoisting. Wood, steel, and rope guides. Safety cages and appliances. Koepe and Whiting systems. Rope-capping and cage couplings. Winding ropes. Safety factor.

Mining legislation with reference to shafts, hauling, winding, timbering, shot-firing, inspection of working places, and mine plans.

Coal mining.—(One lecture per week.)

Methods of working coal. Development of bord-and-pillar working. Main distinctions between longwall and bord-and-pillar workings. Thrust and creep. Shaft pillars. Haulage roads and their protection. "Whole" and "broken" working. Timbering of ditto. General remarks on removal of pillars. Timber withdrawal. Longwall working. Timbering and packwalls. Thick coal-working. South Staffordshire method. Indian and American methods. Special instances. Single and double stall working. Steep seam workings. Rearer workings of North Staffordshire.

Shot-firing. Coal-cutting by machinery. Different types of machines and their uses.

Working under the sea or large bodies of water. Surface subsidence.

Coal-mine plans and sections. Connecting surface and under-ground surveys.

Metal Mining.— (One lecture per week.)

Description of veins, pockets, shoots, chimneys. Lenticular masses.

Prospecting for minerals. Alluvial mining and open working. Ore beds and deep leads. Dredging for gold. Overhand and underhand stopping. Working a thick mineral vein. Timbering of metal mines. Square-set timbering. Shaft-timbering.

Hand and power drilling. Pneumatic and electric drills. Blasting. Metal mine plans.

APPENDIX III—*contd.*

Table No. 4—*concld.*

COURSE II.

Descriptive Mineralogy.—(One lecture per week.)

Important minerals and ores. Fuels and allied materials. Methods of determination of minerals. External characteristics. Specific gravity. Forms of minerals. Systems of crystals and examples. Blowpipe assay. Scale of fusibility. Tests on borax, microcosmic salt and charcoal. Tests with nitrate of cobalt.

Special reference to ores of iron, antimony, baryta, zinc, tin, mercury, copper, lead, manganese, gold, and silver.

Mining Engineering.—(One lecture per week.)

Drainage of mines. Adit levels. Water-buckets. Lift and force pumps. Surface arrangements for draining a sinking pit. Cornish and Hathorne-Davy pumps. Direct-acting steam pumps. Pulsometer. Centrifugal pumps. Hydraulic pumps. Auxiliary pumps for feeding up to the main pump.

Approaching old workings. Dams.

Ventilation. Stoppings, doors, regulators, air-crossings. Practical work in plan ventilation. Dumb drifts. Capell, Waddle, and Guibal fans. General reference to types of fans. Water-gauge and anemometer. Treatment of gob-fires.

Power-application in a mine. Relative merits of steam, water, compressed air, electricity, and oil as sources of applied power.

Indian Mines Acts, and legislation germane to mining.

Coal Mining.—(One lecture per week.)

Description of gases found in mines. Fire-damp. Colliery explosions. Spraying apparatus. Principles and construction of safety lamps. Types of safety lamps. "Caps" on safety lamp flame. Instruments for detecting fire-damp :—opal spectacles, Liveing's and Ansell's indicators, alcohol lamp, hydrogen lamp, Beard-Mackie lamp. Treatment of persons overcome by foul air.

Surface arrangements at a colliery. How they are made automatic as far as possible. Sorting and screening. Tipplers, creepers. Coal-washing,—types of machines. Coking—types of ovens. Recovery of bye-products.

Metal Mining.—(One lecture per week.)

Ore-dressing. Concentration by means of water. Blake crusher. Dodge crusher. Gyratory crushers. Huntington mill. Stamp batteries. Materials required for running a stamp battery. Classification of pulverisers. Arrastra. Amalgamating pans. Jigs, and jig-products. Magnetic separation. Roasting for magnetism. Pneumatic separation. Less important methods of concentration.

Fine sand and slime concentrators. Vanners, pumping or jerking tables ; film-sizing tables. Prospector's cradle. Treatment of refractory ores, sands, and slimes. Cyanide and chlorination treatment.

PRACTICAL MINING AND MINE SURVEYING.

Students are required to spend six weeks in camp, each year of the course, in a mining district, of which about three weeks will be devoted to the surveying of an actual working mine, the remainder of the time being spent in visiting and inspecting the workings and equipment of mines in the vicinity. The surveying will consist of a plan of the mine, with surface connections, and one or more sections along a haulage road. The plan and sections, and the notes on mine equipment made during camp, will form the basis of the "Attested drawings and designs" required from the Degree students.

ATTESTED DRAWINGS AND DESIGNS.

(1) Plan of mine workings, based on survey done in camp, suited for an output of 1,500 tons per day, showing surface buildings, railways, waterways, etc., and pillars left for their protection ; showing also doors, regulators, stoppings, etc., for ventilation purposes. On a scale not smaller than 100 ft. to the inch.

(2) Section of a haulage road, showing new formation level for purposes of installing mechanical haulage.

(3) Section of upcast shaft, showing fan-drift, fan-house, and fan.

(4) Vertical section of downcast shaft, showing pumps, steam-pipes, cages.

(5) Plan of downcast shaft.

(6) General plan of surface arrangements, showing position of tipplers, screens, coke-ovens, boilers, engines, etc.

(7) Section of portion of shaft, to show walling curb and brick work and wedging curb with tubbing.

APPENDIX III—*contd.*

Table No. 5.

MINING INSTRUCTION IN BENGAL.

Preliminary.—The scheme of instruction is designed to afford facilities for persons employed in Coal-mines to be trained in the Principles of Mining.

The following centres have been established and Sub-Committees appointed :—

RANIGANJ DISTRICT.

Sanctoria Centre.	*Charanpur Centre.*
Mr. Jas. Grundy.	Mr. Jas. Grundy.
„ Wm. Miller.	„ R. Mitchell.
„ G. F. Scott.	„ E. M. Patterson.
„ W. McFarlane.	„ A. Russell.

JHARIA DISTRICT.

Jharia Centre.	*Sijua Centre.*
Mr. G. F. Adams.	Mr. G. F. Adams.
„ J. J. Turnbull.	„ H. C. Veasey.
„ Geo. Miller.	„ E. H. Bennertz.
„ A. Gregory.	„ W. J. Wood.

The Mining Instructor will visit each centre once a week.

The course of instruction, consisting of about 25 lectures, will commence in November 1907 and continue to the beginning of the rainy season, 1908.

An examination will be held at the end of the course.

A candidate who passes the examination will receive a certificate recording his success. A prize of books will be given by Mr. Grundy to the candidate who obtains the highest number of marks. No candidate, however, will be permitted to sit for examination unless he has attended seventy-five per cent. of the lectures.

SYLLABUS OF THE COURSE OF INSTRUCTION.

The course will treat principally of the more practical operations in actual mining, with special reference to India, and the principles underlying such operations will be thoroughly discussed.

Special attention will be paid to the various methods of working thick seams.

Geology.—General structure of the crust of the earth: Definitions and descriptions of fault, dyke, outcrop, dip, strike, unconformity, etc., composition and properties of coal; special reference to the coal measures in India: Importance of recording results of observations.

Exploration.—Advantages of borings; driving through faults, washouts; dykes, etc.; methods of maintaining the direction and gradient of such drivages.

Boring and Winning.—Different systems of boring; choice of methods; cost of boring. Winning coal by inclines, adits, shafts, shafts and crosscut.

Sinking.—Site of Colliery; position of shafts; excavation and shape; blasting with use of safety fuse and electric battery; explosives and detonators, their safe storing and handling; lining the shafts and scaffolding; sinking pit, banking arrangements, bowks, water-barrels, bull chain and hook, etc. Special difficulties in sinking and how to deal with them.

Opening out and methods of working.—Shafts pillars; arching or supporting the pit bottom; quarrying; pillar and stall; double road stall; long wall.

Thick coal.—Methods of working in South Staffordshire and Warwickshire, in Upper Silesia and France; methods of working thick seams by long wall, by inclined slices, and by horizontal slices, also the Rabatage System.

Timbering and Supporting.—Fixing of props and double timber; chocks or cogs; special methods of timbering to withstand pressure from the roof, sides and floor; securing dangerous holes in the roof due to heavy falls; use of iron or steel girders; stowing and packing; arching.

Gases met with in coal mines.—Their experimental preparation by chemicals and illustration of their physical and physiological properties; methods of detecting; explosion and gob fires.

Ventilation.—Natural and artificial methods; coursing the air; use of stoppings, brattices, doors, airbridges, regulators, etc.; measuring the quantity of air, use of thermometer, barometer, water-gauge, anemometer; the friction of air in mines and the elementary theory of splitting.

Safety lamps.—Theory of the safety lamp, Sir Humphrey Davy's Experiment; the Davy lamp, the Clanny and Thomas and Williams lamps, the Marsaut and Mueseler lamps; fire-damp detectors.

Mechanical Engineering of Collieries.—Winding engines, discussion of the different types, calculation of the dimensions of cylinders, length of stroke, diameter of drum, etc.;

Table No. 5—*concld.*

strength of winding ropes and chains, detaching hooks, capping winding ropes, care and examination of ropes.

Pumping.—Importance of a good system; measurement of quantities of water; lifting and forcing pumps; pumps for sinking; temporary and permanent pumps; calculation of dimensions; of pumps to perform a given duty, etc., strength of pipes, methods of supporting; different types of joints.

Hauling.—Tramways, tubs and wagons; conveyance by self-acting inclines; single-rope haulage; main and tail; endless rope; endless chain; calculations concerning inclines, sizes of haulage engines, ropes, etc.; signalling; capping of haulage ropes.

Surface arrangements.—Boilers, Cornish, Lancashire, and water-tube types; boiler fittings, injectors, and steam-pipes, etc.; boiler explosions, incrustation, corrosion, and priming; calculations on boilers; Heap steads: arrangement of roads around pit bank; simple screening and sizing.

Transmission of power by steam, compressed air, and electricity; discussing the relative merits of each system.

Coke.—Its production and composition; different types of ovens; recovery of bye-products.

Table No. 6.

DEPARTMENT OF MINES IN INDIA.

Regulations made by the Board of Examiners under Rule 30 of the rules applying to coal-mines made under Section 20 of the Indian Mines Act, 1901, for the conduct of examinations for manager's certificates of competency.

(1) No member of the Board of Examiners shall act as a local examiner, except in emergent cases.

(2) When possible one or more members of the Board of Examiners shall attend every examination on at least one of the days.

(3) So far as is practicable, the local examiners shall be:—

(*a*) An Inspector of Mines, who shall be Secretary to the local examiners.

(*b*) Two Mining Engineers or Colliery Managers who must be the holders of first class certificates. Provided that a Mining Professor may be appointed instead of one of the Mining Engineers or Managers.

(4) The remuneration of each local examiner shall be ₹150 for each examination, and a capitation fee of ₹2 for each first class candidate and ₹1 for each second class candidate examined, and travelling expenses and halting allowances on the first class scale under Civil Service Regulations; but an Inspector of Mines, acting as a local examiner, shall not be entitled to any fee or remuneration whatsoever, beyond the travelling expenses and halting allowances due to him in his official capacity.

(5) The subjects for examination shall be:—

(*a*) *Arithmetic and handwriting.*

(*b*) *Practical and theoretical coal-mining,* including surface and underground arrangements, sinking, timbering, ventilation, gases met with in coal mines, a knowledge of plans, surveying and levelling, and of the various instruments used in mining. Questions may also be asked upon geology, sanitation, hydraulics, explosives, safety lamps and similar subjects. The candidates may also be required to show how to arrange the ventilation and haulage of a mine on a given plan.

(*c*) *Practical mechanics,* including steam, steam-engines, steam-boilers, pumps and strength of materials; and questions may be asked upon electricity and compressed air as applied to coal mining.

(*d*) *The Indian Mines Act, 1901,* and rules made under the Act.

(6) The examinations shall be both written and oral, and the subjects and conditions shall be the same for candidates for both classes of certificates; but the examination questions shall be made suitable for each class of certificate.

APPENDIX III—*contd.*

Table No. 6—*concld.*

(7) The following shall be the maximum number of marks given for each subject :—

Subject.	First Class.			Second Class.		
	Papers.	*Viva voce.*	Total.	Papers.	*Viva voce.*	Total.
(*a*) Arithmetic and handwriting	50	...	50	50	...	50
(*b*) Mining	160	60	220	140	80	220
(*c*) Mechanics	110	40	150	100	50	150
(*d*) Indian Mines Act	60	20	80	50	30	80
Total .	380	120	500	340	160	500

(8) No candidate who fails to obtain 66 per cent. of the total number of marks, or 33 per cent. in either of the subjects of mining or mechanics, shall be passed by the examiners, and if a candidate fails to obtain 33 per cent. of the marks given for either of the subjects of Arithmetic and Handwriting or the Indian Mines Act, any marks he may have obtained in such subjects shall not be included when the total is determined.

(9) Before each examination each candidate shall declare whether he presents himself for a first or second class certificate. No candidate for a second class certificate shall be eligible at that examination for a first class certificate, but a candidate for a first class certificate, who does not reach the necessary standard, may, nevertheless, at the discretion of the local examiners, be recommended to the Board of Examiners for a second class certificate, if, in their opinion, he has done sufficiently well to deserve it.

(10) The Secretary to the local examiners shall report, by registered post, the result of the examination, giving the number of marks obtained by each candidate in each subject, to the President of the Board of Examiners within one month of the close of the examination.

(11) The questions which the local examiners intend to put in the examination papers shall be submitted in draft to the Board of Examiners, for approval, at least six weeks before the date of the examination.

(12) At least one examination shall be held annually in the Bengal coalfields; and in other parts of India examinations will be held whenever, in the opinion of the Board of Examiners the number of candidates in a coal-mining centre justifies the holding of an examination.

APPENDIX III—*contd.*

Table No. 7.

List of holders of certificates as Managers of Coal Mines in British India.

(*a*) Certificates granted to holders of English certificates of competency.

FIRST CLASS.

NAME.	No. of Indian certificate.	Date of Indian certificate.	No. of English certificate.	Date of English certificate.
Murdoch, Adam	63	21st January 1907	2792	12th June 1906.
Martin, William Marshall	64	27th March 1907	2237	16th June 1903.
Ward, Alex. Houstonne	65	Ditto	258	11th July 1890.
Murray, Thomas Chapman	66	Ditto	2793	12th June 1906.
Piggford, Thomas Charles	67	Ditto	1425	25th July 1898.
Combey, William	68	25th April 1907	2564	22nd February 1905.
Heron, Robert	69	Ditto	2884	31st December 1906.
Ward, Percie Overton	70	Ditto	2033	26th May 1902.
Watson, Claude Leslie	71	6th May 1907	1666	23rd February 1900.
Stewart, John H.	72	27th March 1907	640	8th June 1893.
Wardlaw, John B.	73	3rd July 1907	2537	29th December 1904.
Chapman, Joseph	74	Ditto	2518	Ditto.
Somerville, Lawrence Reid	75	12th August 1907	2655	5th June 1905.
Mackay, Angus	76	Ditto	2641	Ditto.
Pitt, George Norman Ackroyd	77	Ditto	1556	30th August 1899.
Lawrie, William	78	Ditto	2887	31st December 1906.
Kirk, Stewart	79	Ditto	2338	13th January 1904.
Thomas, Josiah	80	30th August 1907	2395	30th May 1904.
Davies, Richard Stanley	81	Ditto	2107	22nd September 1902.
Oates, Robert J. W.	82	Ditto	134	28th March 1889.
Emmerson, George	83	Ditto	2278	12th September 1903.
Knox, John	84	Ditto	1871	19th June 1901.
Marshall, John Joseph	85	7th November 1907	2317	8th January 1904.
Jardine, Walter	86	Ditto	2785	12th June 1906.
Darby, Alexander Whyte	87	Ditto	2986	14th June 1907.

SECOND CLASS.

Felton, Samuel	8	3rd July 1907	5154	13th May 1904.
Sutton, George	9	Ditto	2366	23rd January 1895.
Fellows, Alfred Edward	10	12th August 1907	4484	9th May 1902.

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service.

FIRST CLASS.

NAME.	No. of certificate.	Date of certificate.	REMARKS.
Panchan, Narayan	101	8th January 1907.	
Dwane, Francis Cecil	102	Ditto.	
Marwari, Ram Chandra	103	15th January 1907.	
Mukerji, Charu Chandra	104	Ditto.	
Biswas, Purna Chandra	105	Ditto.	
Dutt, Sourindra Nath	106	Ditto.	
Walji, Lira	107	Ditto.	
Nathu, Sheth Haridas	108	Ditto.	
Chandra, Ram Ram	109	Ditto.	
Bunarjee, Jogo Bundhoo	110	22nd January 1907.	
Mukerjee, Bunwari Lal	111	Ditto.	
Chuckerbutty, Rajoni Prokash	112	Ditto.	
Chowdhuri, Neelmoni	113	Ditto.	
Banerjee, Harihor	114	Ditto.	
Ghosh, Ananta Lall	115	Ditto.	
Maltby, Francis Blough	116	30th January 1907.	
Wood, Arthur Whiffen	117	Ditto.	
Lane, Arthur	118	27th March 1907.	
Akhai, Mulji	119	25th April 1907.	
Mukerji, Harish Chandra	120	6th May 1907.	
Read, Harry Crible	121	Ditto.	
Martin, Henry Aloysius	122	12th August 1907.	
Mukherjee, Lal Chand	123	Ditto.	
Oswald, Thomas Clark	124	26th November 1907.	

SECOND CLASS.

Relia, Meghji Bhimji	85	7th January 1907.	
Pal, Basanta Kumar	86	8th January 1907.	
Biddle, Charles John	87	Ditto.	
Dutt, Sarat Chander	88	Ditto.	
Ambler, Taaffe Charles	89	Ditto.	
Lardner, Frederick Charles	90	Ditto.	
Lardner, John Albert	91	Ditto.	
Lardner, James Adolphus (Junior)	92	Ditto.	
Stacey, George	93	Ditto.	

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service—*contd.*

SECOND CLASS.

NAME.	No. of certificate.	Date of certificate.	REMARKS.
Dash, Botto Kristo	4	15th January 1907.	
Mitchel-Jones, Arthur Hood	95	Ditto.	
Dass, Natabar	96	Ditto.	
Howji, Doolabhji	97	Ditto.	
Banerjee, Tripura Charan	98	Ditto.	
Mawjee, Bira	99	Ditto.	
Bosu, Sachindra Nath	100	Ditto.	
Chakravatty, Indra Narayan	101	Ditto.	
Panja, Kali Prasanna	102	22nd January 1907.	
Mukerjee, Beni Madhub	103	Ditto.	
Chuckerbutty, Nil Madhub	104	Ditto.	
Topadar, Pratap Chander	105	Ditto.	
Roy, Durga Dass	106	Ditto.	
Bose, Annada Prashad	107	Ditto.	
Ghose, Jasada Dulal	108	Ditto.	
Chatterjee, Rishi Kesh	109	Ditto.	
Hazra, Pramatha Nath	110	Ditto.	
Bhattacharjee, Kanti Chandra	111	Ditto.	
Chatterjee, Kedar Nath	112	Ditto.	
Chatterjee, Radhakrishna	113	30th January 1907.	
Whiffen, Walter Osborne	114	Ditto.	
Ghosal, Saroda Prosad	115	Ditto.	
Mukerjee, Girindra Narayan	116	Ditto.	
Roy, Sambhu Nath	117	Ditto.	
Sen, Preo Nath	118	Ditto.	
Ghosh, Preo Nath	119	Ditto.	
Sarkar, Surendra Nath	120	31st January 1907.	
Gokal, Mawji	121	Ditto.	
Mukherjee, Rajoni Kanto	122	30th January 1907.	
Mukherjee, Promotho Nath	123	Ditto.	
Roy, Gosto Behary	124	27th March 1907.	
Roy, Prasanna Kumar	125	Ditto.	
Rai, Sasi Bhushan	126	25th April 1907.	
Dossa, Gangji	127	Ditto.	

APPENDIX III—*contd.*

Table No. 7—*contd.*

List of holders of certificates as Managers of Coal Mines in British India—*contd.*

(*b*) Certificates of service—*concld.*

SECOND CLASS.

NAME.	No. of certificate.	Date of certificate.	REMARKS.
Tah, Sarat Chandra	128	25th April 1907.	
Ghosal, Hari Prasanna	129	6th May 1907.	
Williams, James Emmanuel	130	Ditto.	
Din, Ahmed	131	Ditto.	
Biddle, Leonard Alexander	132	Ditto.	
Cooper, Albert James	133	Ditto.	
Hancox, Samuel	134	Ditto.	
Wright, George	135	Ditto.	
Robertson, Ivanhoe George Charsley	136	Ditto.	
Amir Ali	137	Ditto.	
Singh, Karam	138	Ditto.	
Barnes, William	139	Ditto.	
Jerome, William Augustus	140	Ditto.	
Rai, Hokoomat	141	Ditto.	
Woodall, Samuel	142	Ditto.	
Hughes, William	143	Ditto.	
Allah Ditta	144	Ditto.	
Loving, Osmond Davis	145.	Ditto.	
Smith, Duncan Walter Charles	146	Ditto.	
Plant, Joseph	147	Ditto.	
Simpson, Stanley Nevil	148	Ditto.	
Das, Lakhmi	149	Ditto.	
Mohamed Hassan	150	Ditto.	
Mittra, Anuoda Prosad	151	3rd July 1907.	
Bose, Kumude Nath	152	12th August 1907.	
Ghose, Fanindra Nath	153	Ditto.	
Mukerjee, Harish Chandra	154	Ditto.	
Mukerjee, Poorendra Nath	155	Ditto.	
Chand, Malik Mehar	156	Ditto.	
Roy, Rohini Kumar	157	Ditto.	
Griffiths, James	158	30th August 1907.	
Roya, Mohendra Narayan	159	Ditto.	
Haloo, Ramji	160	7th November 1907.	

APPENDIX III—*contd.*

Table No. 7—*concld.*

List of holders of certificates as Managers of Coal Mines in British India—*concld.*

(*c*) Certificates of competency.

FIRST CLASS.

NAME.	No. of certificate.	Date of certificate.	REMARKS.
Pennefather, Alfred Fredrick	1	27th March 1907.	
Scott, George Duncan	2	Ditto.	
Bapty, George Frederic William	3	Ditto.	
Warde, Ivan Alexis Townsend	4	Ditto.	
Calland, Richard	5	Ditto.	
Wilkinson, John Bertram	6	Ditto.	
Murphy, John W.	7	Ditto.	
Cooper, Albert James	8	Ditto.	
Loughran, Herbert W.	9	Ditto.	
Hodgkinson, Thomas Gerald	10	Ditto.	
Topham, William Henry	11	Ditto.	
Bennertz, Theodore Hubert	12	Ditto.	
Roberts, Frank Anthony	13	Ditto.	
Bull, Alfred Collins	14	Ditto.	
Sam, Eleazer Gregory Seth	15	Ditto.	
Thornton, John William	16	Ditto.	
Pal, Basanto Kumar	17	Ditto.	
Blair, David	18	Ditto.	

SECOND CLASS.

Adamson, Harry	1	27th March 1907.	
D'Souza, Joseph Donald	2	Ditto.	
Oliver, James Arthur	3	Ditto.	
Frizoni, Raphael Luke	4	Ditto.	
Cooper, Frank	5	Ditto.	
Rooke, Reginald George	6	Ditto.	
Myers, Harold Ernest	7	Ditto.	
Forbes, Charles Alexander	8	Ditto.	
Bennett, William Henry	9	Ditto.	
Spencer, Alfred James	10	Ditto.	

APPENDIX III—*contd.*

Table No. 8.

List of Universities and Colleges in England and India approved by the Governor-General in Council for the purposes of Rules 32 and 33 of the Indian Mines Act, 1901.

Name of Institution and Degree or Diploma.	Date.
University of Birmingham in respect of its Degree of B.Sc. in Mining and Diploma in Mining.	11th June 1904.
University College of Bristol in respect of its Senior Diploma in Mining.	16th September 1904.
University of Cambridge in respect of its Diploma in Mining Engineering.	6th June 1905.
University of Durham in respect of its Degree of B.Sc. in Mining	21st December 1903.
Durham College of Science in respect of its Diploma in Mining	29th June 1904.
University of Glasgow in respect of its Degree and Diploma in Mining.	28th September 1904.
Glasgow and West of Scotland Technical College in respect of its Diploma in Mining.	28th June 1904.
University of Leeds in respect of its Degree of B.Sc. in Mining and Diploma in Mining.	21st November 1904.
University of London in respect of its B.Sc. Degree in Mining for Internal Students, subject to the Degree being endorsed by the University with a certificate of four months' practical experience in a mine.	9th June 1905.
Royal School of Mines in respect of its Associateship in Mining	24th March 1904.
University of Oxford in respect of its Diploma B. (for Colliery Engineers) in Scientific Engineering and Mining Subjects.	11th February 1905.
University College of Sheffield in respect of its Diploma in Mining.	15th July 1904.
University College of South Wales and Monmouthshire in respect of its Diploma in Mining.	19th April 1904.
Wigan Mining and Technical College in respect of its Diploma in Mining.	26th August 1904.
Civil Engineering College, Sibpur, in respect of its Diploma in Mining.	22nd February 1907.

APPENDIX III—*contd.*

Table No. 9.

List of Inspection Circles.

No. 1 Circle.	No. 2 Circle.	No. 3 Circle.
(*a*) All mines in the districts of Palamau, Gaya, Monghyr, Singhbhum, Darjeeling, Ranchi and Sambalpur, and all mines other than coal mines in the district of Hazaribagh, and all mines in the district of Manbhum, which are situated west of a line drawn from Adra Junction at mile 175 of the Bengal-Nagpur Railway to Gobindpur at mile 169 on the Grand Trunk Road and continued across the district in each direction.	(*a*) All mines in the districts of Burdwan and Bankura to the west of a line drawn from mile 131 on the East Indian Railway main line near Asansol to mile 141 on the Ondal loop near Gaurangdi, and continued across the districts in each direction; and all mines in the district of Manbhum east of a line drawn from Adra Junction at mile 175 on the Bengal-Nagpur Railway to Gobindpur at mile 169 on the Grand Trunk Road, and continued in each direction across the district, and all coal mines in the district of Hazaribagh.	(*a*) All mines in the districts of Burdwan and Bankura to the east of a line drawn from mile 131 on the East Indian Railway main line near Asansol to mile 141 on the Ondal loop near Gaurangdi, and continued across the districts in each direction, and all mines in the districts of the Sonthal Parganas and Birbhum.
(*b*) All mines in Assam.	(*b*) All mines in Baluchistan.	(*b*) All mines in the Presidency of Bombay.
(*c*) All mines in Burma.	(*c*) All mines in the United Provinces.	(*c*) All mines in the Central Provinces.
	(*d*) All mines in the Panjab.	(*e*) All mines in the Presidency of Madras.
	(*e*) All mines in Ajmer-Merwara	

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

APPENDIX III—*contd.*

Table No. 10.

No. 10724—10740-246.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

GEOLOGY AND MINERALS.

RESOLUTION.

Dated Calcutta, the 18th December 1907.

THE following Royal Warrant is published for general information :—

WHITEHALL, *October 17, 1907.*

The King has been pleased to issue a Warrant under His Majesty's Royal Sign Manual to the following effect :—

Edward, R. & I.

Edward the Seventh, by the Grace of God, of the United Kingdom of Great Britain and Ireland and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India, to all to whom these Presents shall come, Greeting!

Whereas We are desirous of distinguishing by some mark of Our Royal Favour the many heroic acts performed by Miners and Quarrymen and others who endanger their own lives in saving or endeavouring to save the lives of others from perils in Mines or Quarries within Our Dominions and in territories under Our Protection or Jurisdiction, We do by these presents for Us, Our Heirs, and Successors institute and create a new Medal to be awarded for such acts of gallantry.

Firstly.—It is ordained that the Medal shall be of two classes which shall be designated and styled "The Edward Medal of the First Class" and "The Edward Medal of the Second Class."

Secondly.—It is ordained that the Edward Medal of the First Class shall consist of a circular Medal of Silver with Our Effigy on the obverse, and on the reverse a design representing the rescue of a miner with the inscription "for courage."

Thirdly.—It is ordained that the Edward Medal of the Second Class shall consist of a Circular Medal of Bronze of a similar design.

Fourthly.—It is ordained that the Medals shall only be awarded to those of Our Faithful Subjects and others who, in saving or endeavouring to save the lives of others from perils in Mines and Quarries within Our Dominions and in territories under Our Protection or Jurisdiction, have endangered their own lives, and that such award shall be made only on a recommendation to Us by Our Principal Secretary of State for the Home Department.

Fifthly.—It is ordained that the names of those upon whom We may be pleased to confer either of these Decorations shall be published in the *London Gazette*, and that a Register thereof shall be kept in the Office of Our Principal Secretary of State for the Home Department.

Sixthly.—It is ordained that each Medal shall be suspended from the left breast and the riband, of an inch and three-eighths in width, shall be dark blue with a narrow yellow stripe on either side: Provided that when the Medal is awarded to a woman it shall be worn on the left shoulder, suspended from a riband of the same width and colour, fashioned into a bow.

APPENDIX III—*concld.*

Table No. 10—*concld.*

Seventhly.—It is ordained that any act of gallantry which is worthy of recognition by the award of the Edward Medal, but is performed by one upon whom the Decoration has already been conferred may, on a recommendation to Us by Our Principal Secretary of State for the Home Department, be recorded by a Bar attached to the riband by which the Medal is suspended; and for every such additional act an additional Bar may be added.

Eighthly.—In order to make such provision as shall effectually preserve pure these most honourable Decorations it is ordained that if any person, on whom either of such Decorations is conferred be guilty of any crime or disgraceful conduct which, in Our judgment disqualifies him for the same, his name shall, by an especial Warrant under Our Royal Sign Manual, be forthwith erased from the Register of those upon whom the said Decoration shall have been conferred and his Medal shall be forfeited. And every person to whom the said medal is given shall before receiving the same, enter into an agreement to return the same, if his name shall be so erased as aforesaid under this regulation. It is hereby further declared that We, Our Heirs and Successors, shall be the sole judges of the circumstances demanding such forfeiture. Moreover, We shall at all times have power to regrant a Medal to any person whose Medal may at any time have been forfeited.

Given at Our Court at *Saint James's*, the thirteenth day of *July*, one thousand nine hundred and seven, in the seventh year of Our Reign.

By His Majesty's Command,

H. J. GLADSTONE.

ORDERED that the paper be published in the Supplement to the *Gazette of India*, and that copies be forwarded to the Local Governments and Administrations noted in the margin, to the Finance and Foreign Departments, the Railway Board, the Chief Inspector of Mines in India and the Indian Mining Association, for information.

The Secretary to the Government of Madras, Revenue Department.
" " " " Bombay " "
" Chief Secretary to the Government of Bengal.
" " " " " the United Provinces.
" " " " " the Panjab.
" Revenue Secretary " " Burma.
" Chief Secretary " " Eastern Bengal and Assam.
" Honourable the Chief Commissioner, Central Provinces.
" Honourable the Resident at Mysore and Chief Commissioner of Coorg.
" Chief Commissioner of Ajmer-Merwara.
" Honourable the Agent to the Governor-General and Chief Commissioner, North-West Frontier Province.
" Agent to the Governor-General in Baluchistan.

W. L. HARVEY,

Secretary to the Government of India.

APPENDIX IV.

ADDITIONS TO THE ACT.

No. 3952—36.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

GEOLOGY AND MINERALS.

NOTIFICATION.

Simla, the 10th May 1907.

In exercise of the power conferred by section 20 of the Indian Mines Act, 1901 (VIII of 1901), the Governor General in Council is pleased to make the following rule for application to all mines in British India in supersession of the Rule published with the Notification of the Government of India in the Department of Revenue and Agriculture, No. 3842—86-15, dated the 8th December 1904.

RULE.

Form of Annual Return.

The following form shall be correctly filled up in duplicate by the managing agent, or if there is no managing agent, by the owner, agent or manager of a Mine, and one copy forwarded to the Chief Inspector of Mines and the other to the District Magistrate not later than the 1st February in each year.

I.

Year ending on the 31st December 190 .

1. Name of Mine.
2. Date of opening.
3. Date of closing.
4. Nature of moving power.
5. Situation of Mine: District. Province.
6. Name and postal address of: Owner. Managing Agent. Agent. Manager. Assistant or Under Manager.

APPENDIX IV—*contd.*

II.

Average number of persons employed daily during the year ending on the 31st December 190 .

Name or No. of pit or excavation.	Below ground.				Above ground.				Gross total below and above ground.
	Male adults.	Female adults.	Children under 12.	Total.	Male adults.	Female adults.	Children under 12.	Total.	
1	2	3	4	5	6	7	8	9	10
Total									

III.

Output of Mineral during the year ending on the 31st December 190 .

Name or No. of pit or excavation.	Depth from the surface of the lowest point of the seam or vein worked, in feet.	Name of mineral worked.	Total amount of mineral raised.	Total value of mineral at the mine.	Number of days worked.	In case of coal mines.		
						No. of coke ovens.	System of coking adopted, *viz.*, bee-hive, Simon-Carves, etc.	Tons of coke produced.
1	2	3	4	5	6	7	8	9
Total								

APPENDIX IV—*contd.*

IV.

Accidents and inspections.

No. of separate accidents reported during the year.			No. of persons.		No. of prosecutions under the Act, with the section under which the prosecution was instituted.	No. of persons convicted under the Act, with the sections under which the convictions were obtained.	No. of inspections.		
Fatal.	Serious.	Total.	Killed.	Seriously injured.			By District Officers.	By Mines Inspector.	Total.
1	2	3	4	5	6	7	*8	*9	*10

* It is optional to supply the information required by columns 8, 9 and 10. They will be filled in by the Mines Department when left blank by Mine Agents or Owners.

Signature of Managing Agent, Owner, Agent, or Manager: _____

_____ *190* .

Notes and Instructions.

(1) Failure to forward a correct return to the Chief Inspector of Mines not later than the 1st February in each year, will render the managing agent, owner, agent, or manager liable on conviction to a penalty which may extend to Rs. 500.

(2) It will greatly facilitate the preparation of the statistics if the return is despatched as soon as possible at the close of the year.

(3) The output should be given—

(*a*) in troy ounces in the case of gold;

(*b*) in carats in the case of gem-stones;

APPENDIX IV—*contd.*

(*c*) in cwts.,—or in cwts. and lbs. where the circumstances require greater particularisation in order to give an accurate estimate of small outputs,—in the case of alum, amber, asbestos, chromite, corundum (not being gem corundum), graphite, jadestone, mica, steatite and tin ore; and

(*d*) in tons, in the case of clays, coal, coke, iron-ore, limestone, magnesite, manganese-ore, other unspecified metalliferous ores, salt and slate.

(4) The total amount of mineral raised during the year must be given including, in the case of coal mines, the colliery consumption and the coal made into coke.

(5) The value of the mineral given should be based on the actual or estimated wholesale price of the mineral at the pit's mouth. In the case of coal sold into wagons at the colliery the cost of loading should be deducted from the selling price.

(6) In the case of mica mines a "plot" is to be regarded as a "pit" for the purposes of statements Nos. II and III and the figures to be entered in columns 4 and 5 of statement No. III relate to the quantity and value of marketable mica consigned.

(7) The average number of persons employed daily should be obtained by dividing the aggregate number of daily attendances (permanent and temporary) by the number of working days.

(8) Every person of or above the age of twelve years should be entered as an adult.

B. ROBERTSON,

Offg. Secretary to the Government of India.

No. 3953—3966-36

Copy forwarded in continuation of letter No. 8497—8507-92-Geology and Minerals, dated 26th October 1906, to—

The Secretary to the Government of Madras, Revenue Department,
The Secretary to the Government of Bombay, Revenue Department,
The Chief Secretary to the Government of Bengal,
The Chief Secretary to the Government of the United Provinces,
The Chief Secretary to the Government of the Panjab,
The Revenue Secretary to the Government of Burma,
The Chief Secretary to the Government of Eastern Bengal and Assam,
The Hon'ble the Chief Commissioner of the Central Provinces,
The Hon'ble the Resident in Mysore and the Chief Commissioner of Coorg,
The Chief Commissioner of Ajmer-Merwara,
The Hon'ble the Agent to the Governor General and Chief Commissioner, North-West Frontier Province.

A copy is forwarded to the Foreign Department, for information and communication to the Agent to the Governor General in Baluchistan in continuation of the endorsement from this Department, No. 8508—92, dated the 26th October 1906.

A copy is also forwarded to the Chief Inspector of Mines in India / Director General of Commercial Intelligence for information.

By order,

M. M. S. GUBBAY,

Offg. Under Secretary to the Government of India.

APPENDIX IV—*contd.*

No. 7861—36.

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

GEOLOGY AND MINERALS.

NOTIFICATION.

Simla, the 19th September 1907.

In exercise of the power conferred by section 20 of the Indian Mines Act, 1901 (VIII of 1901), the Governor General in Council is pleased to make, in supersession of the rules published with Notifications Nos. 3352-45-32, and 3938-35, dated the 27th December 1901, and 23rd May 1906, respectively, the following rules for application to all mines in British India :—

1.—When an accident occurs in or about a mine causing loss of life or serious* bodily injury, or when an accidental explosion occurs in a mine, the owner, agent or manager of the mine shall give notice of the accident to the Chief Inspector of Mines by despatching to the Magistrate of the district or to the Sub-divisional Magistrate, for transmission to the Chief Inspector of Mines, a notice in the form set forth below, within 24 hours of the occurrence of such accident :—

No.

NOTICE OF ACCIDENT.

Indian Mines Act, 1901.

From—

To—The Chief Inspector of Mines, through the $\frac{\text{District}}{\text{Sub-divisional}}$ Magistrate of

Dated 190 .

SIR,

I have the honour to furnish the following particulars of a $\frac{\text{fatal}}{\text{serious}}$ accident $\frac{\text{an accidental}}{\text{explosion}}$ which has occurred at the Mine :—

Situation of the Mine. 1. (Village, Station, District, Province) .	
2. Mineral worked	
3. Name and postal address of owner .	

* NOTE.—An injury is said to be serious which involves or will in all probability involve the loss of, or permanent injury to any limb, or to the sight or hearing, or fracture of any limb, or enforced absence from work for 20 days, or which is declared by any medical officer to be serious. (Circular No. 42-70-6, dated 4th September 1902, of the Government of India in the Department of Revenue and Agriculture.)

APPENDIX IV—*contd.*

4. Name and sex of persons.		Age.	Occupation.
Killed.	Injured.		
5. Date and hour of accident.			
6. Place of accident			
7. Cause and description of accident			
8. Classification of accident (*see* rule 2)			
9. Nature of injury, and if fatal, cause of death			

I have the honour to be,

SIR,

Your most obedient servant,

Owner,

Agent,

Manager.

2. For the purposes of entry No. 8 in the form of notice prescribed by rule 1, one or other of the following terms shall be used, namely :—

(1) Explosions of fire-damp; (2) falls of roof; (3) falls of side; (4) in shafts (over-winding); (5) in shafts (ropes and chains breaking); (6) in shafts (whilst ascending or descending by machinery); (7) in shafts (falling into the shaft from the surface); (8) in shafts (falling from part of the way down); (9) in shafts (things falling from the surface); (10) in shafts (things falling from part of the way down); (11) in shafts (miscellaneous); (12) suffocation by gases; (13) by explosives; (14) irruptions of water or falling into water; (15) haulage; (16) by underground machinery; (17) sundries underground; (18) by surface machinery; (19) surface boilers or pipes bursting; (20) on surface railways or tramways belonging to the mine; (21) miscellaneous on surface.

3. When any person dies from the result of an injury already reported as serious under rule 1, the owner, agent or manager of the mine shall send notice, within 24 hours of his being informed of the death, to the Chief Inspector of Mines, through the Magistrate of the district or the Sub-divisional Magistrate.

4. When a mine, seam or vein has been abandoned for more than one month, or the working thereof discontinued for more than two months, the owner of the mine, seam or vein shall, within seven days after the expiry of such period, send notice to the Chief Inspector of Mines specifying the name and situation of the mine, the name of the owner and the date and cause of abandonment or discontinuance.

5. When a mine, seam or vein is re-opened after abandonment or discontinuance, the owner shall send notice to the Chief Inspector of Mines within one month after the date of re-opening.

6. When a change occurs in the name of a mine, or of an owner or agent of a mine notice of the change shall be sent by the owner, agent or manager, to the Chief Inspector of Mines within one month after such change.

B. ROBERTSON,

Offg. Secretary to the Government of India.

APPENDIX IV—*concld.*

Nos. 7862—7877-36.

Copy forwarded to—

The Secretary to the Government of Madras, Revenue Department.
The Secretary to the Government of Bombay, Revenue Department.
The Chief Secretary to the Government of Bengal.
The Chief Secretary to the Government of the Panjab.
The Revenue Secretary to the Government of Burma.
The Chief Secretary to the Government of Eastern Bengal and Assam.
The Honourable the Chief Commissioner, Central Provinces.
The Honourable the Resident and Chief Commissioner of Coorg.
The Chief Commissioner of Ajmer-Merwara.
The Honourable the Agent to the Governor-General and Chief Commissioner, North-West Frontier Province.
The Honourable the Agent to the Governor-General in Baluchistan.

A copy is forwarded to the Foreign Department, for information.

A copy is also forwarded to the Finance Department, / Chief Inspector of Mines, / Railway Board, / Secretary, Indian Mining Association, for information.

By order, etc.,
M. M. S. GUBBAY,
Offg. Under Secretary to the Government of India.

No. 10014—100,

GOVERNMENT OF INDIA.

DEPARTMENT OF COMMERCE AND INDUSTRY.

GEOLOGY AND MINERALS.

NOTIFICATION.

Calcutta, the 4th December 1907.

In exercise of the power conferred by section 20 (2) (v) of the Indian Mines Act, 1901 (VIII of 1901), the Governor General in Council is pleased to make the following rules for application to all mines in British India :—

Rules

(I) If the owner, agent or manager of any mine intends to extend any mining operation under his control at or to any point within fifty yards of any railway subject to the provisions of the Indian Railways Act, 1890, he shall give the Chief Inspector of Mines and the Railway Administration concerned notice in writing of his intention so to do 60 days before the commencement of such extension.

APPENDIX IV—*contd.*

(II) If the operations in respect of which notice is given under rule I are not commenced within twelve months from the expiry of the period of 60 days therein referred to, the notice shall be held to have expired and a fresh notice shall be given by the owner, agent or manager of the mine under rule I.

(III) The notice to be given under rule I shall specify the position of the working of the mine in relation to the railway in question, the manner in which it is proposed to carry out the intended new operations, the limits to which it is proposed to carry the said operations, and whether the operations are actually in progress,—and shall include a plan showing the existing and the intended mining operations in so far as they affect the railway in question.

W. L. HARVEY,
Secretary to the Government of India.

Nos. 10015—10031-100.

* The Governments of Madras, Bombay and Burma, Revenue Department.
The Governments of Bengal, the United Provinces, the Panjab and Eastern Bengal and Assam.
The Hon'ble the Chief Commissioner, Central Provinces.
" " " Ajmer-Merwara.
" the Resident in Mysore and Chief Commissioner, Coorg.
" the Agent to the Governor-General and Chief Commissioner, North-West Frontier Province.
The Hon'ble the Agent to the Governor-General in Baluchistan.

A copy is forwarded to the Local Governments and Administrations, noted in the margin,* and to the Foreign Department for information.

A copy is also forwarded to the Finance Department. / Chief Inspector of Mines in India. / Railway Board. / Secretary, Indian Mining Association.

By order, etc.,

M. M. S. GUBBAY,
Under-Secretary to the Government of India.

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

APPENDIX V.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle).							
1	Agabeg Bros. (See column No. 7).	Jogta (4 mines).	Jogta, Sijua, E. I. R.	Wilfred Hullock, *1st class service No. 49. Authorization, No. 189, to act as manager of more than one mine.*	...	...	...	534	195	
2	Agarwala, Jagannath Ramjus Jharia P. O.	Khas Jharia	Khas Jharia, Jharia, E. I. R.	O. S. Lethorn, *2nd class service, No. 47.*	...	...	...	38	33	
3	Agarwala, Lachmi Narayan Jharia P. O.	Godhur	Godhur, Kusunda, E. I. R.	...	...	...	...	...	...	
4	Agarwala, Ramjus Jharia P. O.	Chandrabad (2 mines).	Chandrabad, Jharia, E. I. R.	Rup Lal Agarwala, *Permit No. 119. Authorization, No. 182, to act as manager of more than one mine.*	...	...	...	...	25	
5		Futtehpur	Futtehpur, Jharia, E. I. R.	O. S. Lethorn, *2nd class service, No. 47.*	...	...	...	44	22	
6	A.dih Coal Co., Ld. (See column No. 7).	Bhutgoria	Bhutgoria, Jharia, E. I. R.	D. Bone, *1st class service, No. 9. Authorization, No. 127, to act as manager of more than one mine.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	420	135	
7	Angarpatra Colliery Co. (Virgi Akhai & others). Katrasgarh P. O.	Angarpatra	Angarpatra, Katrasgarh, E.I.R.	Purshotam Bhimji, *1st class service, No. 65.*	...	...	...	153	17	
8		Kantaphari	Kantapahari, Katrasgarh, E.I.R							
9	Angarpatra (South) Coal Co. (Bejoy Krishna Banerji & Son) 22, Nayanchand Dutt Street, Calcutta.	Kantapahari	Kantapahari, Katrasgarh, E.I.R.	J. K. Chowdhuri	...	...	...	31	17	
10	Auckland Coal Co., Ld. (See column No. 7).	Nudkhurki (East)	Nudkhurki	...	...	Lyall, Marshall & Co., 25, Mangoe Lane, Calcutta, or Post Box No. 6.	...	..	...	W. V. Hannaford, Agent
11	Bagchi, R. N. Jharia P. O.	Dobari (5 mines).	Dobari, Jharia, E. I. R.	Trivonga Chakravarty, *2nd class service, No. 36. Authorization, No. 136, to act as manager of more than one mine.*	...	...	...	60	68	

12	Bagdiggi-Kujama Collieries, Ld. (See column No. 7).	Bagdiggi	Bagdiggi, Jharia, E. I. R.	Keshab Chandra Sarkar, *2nd class service, No. 25.*	...		...	...	...	
13		Kujama	Kujama, Jharia, E. I. R.	Jnanendra Nath Mukherji, *1st class service, No. 91.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Cacutta.	...	...	...	
14		Kujama (South)		Surendra Nath Bose	...		...	62	38	
15	Banerji & Co., Harish Chandra Katrasgarh P. O.	Chandore	Chandere, Sijua, E. I. R.	Krishna Chandra Ghosal, *Permit, No. 94.*	...	...	...	26	6	
16	Banerji, Bepin Behari Katrasgarh P. O.	Kesalpur (New)	Kesalpur, Katrasgarh, E. I. R.	Rajendra Nath Biswas, *Permit, No. 128.*	..	...	...	40	23	
17	Banerji's Coal Concern, J. L. (See column No. 7).	Surataur (New)	Jharia Khas, Jharia, E. I. R.	Girendra Narayan Mukherji, *2nd class service, No. 116.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	92	21	
18	Bansdeopur Coal Co. (P. H. Creet). Kusunda P. O.	Bansdeopur	Bansdeopur, Kusunda, E. I. R.	G. H. Creet, *1st class service, No. 43.*	...	...	...	207	240	
19	Bansjora Coal Co. (See column No. 7).	Bansjora (5 mines).	Bansjora, Sijua, E. I. R.	G. F. W. Bapty, *1st class competency, No. 3. Authorization, No. 163, to act as manager of more than one mine.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta, or Post Box No. 78.	...	132	114	
20	Barakar Coal Co., Ld. (See column No. 7).	Loyabad (10 mines).	Loyabad, Kusunda, E. I. R.	E. S. Bennertz, *1st class service, No. 21. Authorization, No. 39, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	820	640	
21	Barakar (North) Coal Co. Jharia P. O.	Lodna	Lodna, Jharia, E. I. R.	Joy Krishna Mitter, *1st class service, No. 40.*	...	...	...	410	161	
22	Barari (East) Coal Co. (Tricumji Jiban Dass). 25, Pollock Street, Calcutta.	Jinagora	Jinagora, Jharia, E. I. R.	Govardhan Dass Manishanker, *1st class service, No. 76. Authorization, No. 45, to act as manager of more than one mine.*	..	...	...	145	16	
23		Parbad	Parbad, Jharia, E. I. R.		...	...		24	6	
24	Barwabera Coal Co., (Khiti Bhusan Mukherji) Jharia P. O.	Barwabera (New)	Barwabera	Ram Hari Chatterji	...	...	...	...	...	
25	Beerbhum (New) Coal Co., Ld. (See column No. 7).	Banstakola (3 mines).	Banstako'a, Jharia, E. I. R.	Josiah Thomas, *1st class competency, No. 80, in lieu of English certificate. Authorization, No. 120, to act as manager of more than one mine.*	...	Balmer, Lawrie & Co., 103, Clive Street, Calcutta, or Post Box No. 4.	...	204	106	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
26	Bengal Bhatdih Coal Co., Ld. (See column No. 7).	Bhatdih (8 mines).	Murulidih, Katrasgarh, E. I. R.	H. M. Bull, *1st class service, No. 23. Authorization, No. 59, to act as manager of more than one mine.*	...	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta, or Post Box No. 117.	...	74	51	
27	Bengal (Central) Coal Co., Ld. (See column No. 7).	Kantapahari (West)	Kantapahari, Katrasgarh, E.I.R.	Meghji Bhimji Relia	...	...	...	71	5	
28	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta, or Post Box No. 117.	Murulidih	Murulidih, Katrasgarh, E. I.R.	H. M. Bull, *1st class service, No. 23. Authorization, No. 59, to act as manager of more than one mine.*	...	See column No. 2.		404	350	
29		Puddugora	Puddugora, Katrasgarh, E.I.R.	A. M. Thaddeus, *1st class service, No. 7.*	...		...	...	...	
30	Bengal Iron & Steel Co., Ld. (See column No. 7).	Noonoodih	Noonoodih, Jharia, E. I. R.	J. H. Stewart, *1st class competency, No. 72, in lieu of English certificate.*	...	Martin & Co., 6 & 7, Clive Street, Calcutta, or Post Box No. 23.	...	246	109	
31	Bengal Nagpur Coal Co., Ld. (See column No. 7).	Bhuggutdih (4 mines).	Bhuggutdih, Jharia, E. I. R.	W. O. Mitchell, *1st class service, No. 8. Authorization, No. 108, to act as manager of more than one mine.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...	526	170	
32	Bhalgora Coal Co., Ld. (See column No. 7).	Bhalgora	Bhalgora, Jharia, E. I. R.	J. Parker, *1st class competency, No 99, in lieu of English certificate.*	...	Sircar, Barnard & Co., 2, New China Bazar Street, Calcutta, or Post Box No. 286.	...	502	260	R. Barnard, Superintending Engineer.
33		Simlabahal	Simlabahal, Jharia, E. I. R.	D. A. Anderson, *1st class competency, No. 97, in lieu of English certificate.*	...					
34	Bhattacharji, U. C. Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	W. C. Bhattacharji	...	...	...	14	3	
35	Bhulanbarari Coal Co., Ld. (See column No. 7).	Bhulanbarari (6 mines).	Bhulanbarari, Jharia, E. I. R.	J. A. Oliver, *1st class competency, No. 18. Authorization, No. 23, to act as manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	495	388	

36	Biswas, P. K. . . . . Katrasgarh P. O.	Ramkanali . .	Ramkanali, Katrasgarh, E. I. R.	...	...	...	...	...	...	...
37	Borrea Coal Co., Ld. . . . (See column No. 7).	Bhagaband . . (5 mines),	Bhagaband, Jharia, E. I. R. .	S. H. Seddon, *1st class service, No. 72. Authorization, No. 106, to act as manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	616	308
38	Bose, J. N. . . . 20, Baranasi Ghose's Street, Calcutta.	Angarpatra .	Angarpatra, Katrasgarh, E. I. R.	Rajani Kanto Mukherji, *2nd class service, No. 122. Authorization, No. 95, to act as manager of more than one mine.*	...	...	...	103	44
39		Kantapahari .	Kantapahari, Katrasgarh E. I. R.						
40		Kesalpur . .	Kesalpur, Katrasgarh, E. I. R.	Purna Chandra Burmon, *2nd class service, No. 72.*	...	...	...	32	21
41	Bose, Satish Chandra . . . Nowagarh P. O.	Bamongarh .	Bamongarh	Bansi Dhar Chattoraj .	...	...	...	36	26
42	B. R. & N. Coal Co. . . . Jharia P. O.	Joyrampur . .	Joyrampur, Jharia, E. I. R. .	Bira Mavji, *2nd class service, No. 99.*	Roja Valgee .	...	...	43	25
43	Budruchak Coal Mining Co., Ld. (See column No. 7).	Budruchak . . (6 mines).	Budruchak, Sijua, E. I. R. .	J. W. Nierses, *1st class service, No. 19. Authorization, No. 151, to act as manager of more than one mine.*	...	Arathoon, Ld., 1, Vansittart Row, Calcutta, or Post Box No. 217.		153	133
44	Bulliari Coal Co. . . . (Seth Ranchhoddas Trikamji Jiwandas). Jharia P. O.	Bulliari . .	Bulliari, Jharia, E. I. R. .	Seth Haridas Naithu, *1st class service, No. 108.*	...	...	...	171	115
45	Bulliari Coa Concern (Khora Ramji). Jharia P. O.	Bulliari . .	Bulliari, Jharia, E. I. R. .	Mulji Akhoy, *1st class service, No. 119.*	Nogha Teja .	...	...	97	59
46	Burragarh, Coal Co., Ld. . . (See column No. 7).	Burragarh . .	Burragarh, Jharia, E. I. R. .	J. B. Wardlaw, *1st class competency, No. 73, in lieu of English certificate.*	...	Sircar, Barnard & Co., 2, New China Bazar Street, Calcutta, or Post Box No. 286.	...	145	138
47	Busserya Coal Co., Ld. . . (See column No. 7).	Busserya . .	Busserya, Kusunda, E. I. R. .	Butto Kristo Dash, *2nd class service, No. 94.*	...	Bhola Nath Dash & Co., Lalbagan, Chandernagore P. O.	...	198	111
48	Chakrabarty, Krishnajiban . . 40, Clive Street, Calcutta.	Jinagora . .	Jinagora, Jharia, E. I. R. .	Upendra Nath Chatterji, *Permit, No. 82.*	...	...	...	14	11
49	Chandore Coal Co. (P. K. Roy & others). Katrasgarh P. O.	Chandore . . (2 mines).	Chandore, Katrasgarh, E. I. R.	Dhon Kristo Mazumdar, *Permit, No. 126.*	...	...	...	58	10

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
50	Chandra, Girish Chandra . . Katrasgarh P. O.	Ramkanali . . (2 mines).	Ramkanali, Katrasgarh, E I.R.	Nagendra Nath Dass, *Permit, No. 46.*	...	...	&c.	24	6	
51	Chandra, Haresmal Ram . . Katrasgarh P. O.	Tettulia . . (2 mines).	Tettulia, Katrasgarh, E. I. R.	Jogadamba Prasad Lala, *2nd class service, No. 53. Authorization, No. 32, to act as manager of more than one mine.*	...	...	...	180	80	
52	Chatterji, Singh & Co. . . (Rajendra Nath Chatterji & Gour Mohan Singh). Nowagarh P. O.	Borora . .	Borora	Romesh Chandra Das Gupta.	...	...	...	3	2	
53	Choudhuri, Satya Taran Sijua P. O.	Pandedih . .	Pandedih, Sijua, E. I. R.	Manmatha Nath Mukherji, *Permit, No. 101.*	...	...	...	50	16	
54	Chuni Lal Coal C Kusunda P. O.	Bulliari . .	Bulliari, Kusunda, E. I. R.	Ram Chandra Marwari, *1st class service, No. 103. Authorization, No. 29, to act as manager of more than one mine.*	...	...	...	101	40	
55	Chutto Lal Kutchi . . . Sijua P. O.	Pandedih . .	Pandedih, Sijua, E. I. R.	.....	...	...	...	...	...	
56	C. M. & Co. . . . . (Chimanlal Mangaldas Keshan Lal Parekh). Nowagarh P. O.	Kendwadih . .	Kendwadih . . .	Bhaichand Naku Doshi	...	...	...	28	40	
57		Koradih . .	.....	Bepin B. Sircar, *2nd class service, No. 78.*	...	...	...	55	24	
58	Das, L. H. . . . . Jharia P. O.	Kujama . .	Kujama, Jharia, E. I. R. .	Lira Walji, *1st class service, No. 107.*	...	...	...	130	110	
59		Pandeybera . .	Kujama, Jharia, E. I. R.					65	34	
60	Das, R. B. . . . . Kusunda P. O.	Gararia . .	Gararia, Kusunda, E. I. R.	Ashutosh Dutta, *Authorization, No. 10, to manage the mine temporarily.*	...	...	...	50	34	

61	Dheriajoba Coal Co. (B. B. Bose). Kusunda P. O.	Dheriajoba	Dheriajoba, Kusunda, E. I. R.	Khudi Ram Banerji, *Permit, No. 134.*	...	...	...	23	9	
62	Dobari Coal Co. (S. B. Banerji & R. K. Sahana). (See column No. 7).	Dobari	Dobari, Jharia, E. I. R.	Natabar Dass, *2nd class service, No. 96. Authorization, No. 137, to act as manager of more than one mine.*	...	Woomesh Chander Banerji, 38, Chunapukur Lane, Calcutta.	...	10	5	
63		Ganhudi	Ganhudi					45	20	
64	Dosa, Ganji & Khunji Jharia P. O.	Futtehpur	Futtehpur, Jharia, E. I. R.	Ganji Dosa, *2nd class service, No. 127.*	...	...	...	17	11	
65	Dumra Coal Co. Nowagarh P. O.	Pinalgoria	Pinalgoria	Ram Recha Singh, *Permit, No. 121.*	...	...	...	13	13	
66	Dutt, B. L. Katrasgarh P. O.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	Bihari Lall Dutt, *1st class service, No. 70.*	...	...	...	18	3	
67	East Indian Coal Co., Ld. (See column No. 7).	Brahmanbarari & Bhulanbarari.	Brahmanbarari & Bhulunbarari, Jharia, E. I. R.	H. G. Fleury, *1st class service, No. 35.*	E. Miller	Jardine, Skinner & Co., 4, Clive Row, Calcutta, or Post Box No. 51.	...	1,283	905	J. J. Turnbull, Agent.
68		Bulliari and Khaira.	Bulliari & Khaira, Kusunda, E. I. R.	R. G. M. Bathgate, *1st class competency, No. 8, in lieu of English certificate.*	...		...	430	149	
69		Kendwadih	Kendwadih, Kusunda, E. I. R.				...	696	396	
70		Sutikdih	Sutikdih	H. G. Fleury, *1st class service No. 35.*	...		...	135	46	
71	Eastern Coal Co., Ld. (See column No. 7).	Bhowra (9 mines).	Bhowra, Jharia, E. I. R.	R. J. Browne, *1st class competency, No. 17, in lieu of English certificate. Authorization, No. 171, to act as manager of more than one mine.*	...	Mackinnon, Mackenzie & Co., 16, Strand, Calcutta, or Post Box No. 163.	...	742	126	
72		Kankani	Kankani, Sijua, E I. R.	A. B. Crole, *1st class competency, No. 49, in lieu of English certificate.*	...		...	522	548	
73		Pootki (2 mines).	Pootki, Jharia, E. I. R.	R. J. Browne, *1st class competency, No. 17, in lieu of English certificate. Authorization, No. 171, to act as manager of more than one mine.*	...		...	...	...	
74	Empire Coal Co., Ld. (See column No. 7).	Sudamdih	Sudamdih, Jharia, E I. R.	T. Thompson. *1st class service, No. 57.*	...	Williamson, Magor & Co., 4, Mangoe Lane, Calcutta, or Post Box No. 177.	...	72	104	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
75	Equitable Coal Co., Ld. (See column No. 7).	Hariladih	Hariladih, Jharia, E. I. R.	D. Bone, *1st class service, No. 9. Authorization, No. 127, to act as manager of more than one mine.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	270	67	
76	Ghansham Das Coal Co. Nowagarh P. O.	Pinalgoria	Pinalgoria	Ramtaran Roy, *Permit, No. 124.*	...	.....	...	12	15	
77	Ghela Panchan & Co. Jharia P. O.	Joyrampur (Lower).	Joyrampur, Jharia, E. I. R.	Norendra Nath Bose, *Permit, No. 117.*	...	.....	...	56	24	
78	Ghosal, Chatterji & Co. Sijua P. O.	Khas Paredih	Khas Paredih	Moheswar Ghosal, *Permit, No. 139.*	...	.....	...	31	9	
79	Ghosh, Akshaya Kumar Katrasgarh P. O.	Dharmuband	Dharmuband	Bhola Nath Misra *Permit, No. 114.*	...	.....	...	14	10	
80	Gobindpur Coal Co., Ld., Katrasgarh P. O.	Gobindpur (3 mines).	Gobindpur, Katrasgarh, E. I. R.	Geo. St. J. D. Wills, *1st class service, No. 68. Authorization, No. 83, to act as manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	86	110	
81	Gobindpur (South) Colleries, Ld. (See column No. 7).	Gobindpur (South).	Gobindpur, Katrasgarh, E. I. R.	Jagabandhu Banerji, *1st class service, No. 110.*	...	M. L. Laik & Banerji, 7, Swallow Lane, Calcutta	...	136	34	Formerly owned by R. B. Singh.
82	Gopalichak Coal Co., Ld. (See column No. 7).	Gopalichak, (2 mines).	Gopalichak, Jharia, E. I. R.	M. J. Adamson, *1st class service, No. 51. Authorization, No. 155, to act as manager of more than one mine.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta, or Post Box No. 78.	...	450	280	
83		Gopalichak (West) (3 mines).	Kurkend, Kusunda, E. I. R.		...		...	295	59	
84	Gorain, N. L., and others Jharia P. O.	Jairamdih	.....	Rasaraj Sikdar, *Permit, No. 85.*	...	.....	...	35	13	
85	Gorain, Ram Ranu 12, Kalakar Street, Calcutta.	Kendwadih	Kendwadih, Jharia, E. I. R.	Bhola Nath Ghosh, *Permit, No 115.*	...	.....	...	31	14	
86	G. P. C. & Co., (Gova Petha) Jharia P.O.	Jinagora	Jinagora, Jharia, E. I. R.	Gova Petha	...	.....	...	80	30	

87	Hariladih Coal Co., Ld. (See column No. 7).	Burragarh	Burragarh Jharia, E. I. R.	Geo. Miller, *1st class competency, No. 57, in lieu of English certificate.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	...	...	Figures included in that of Kendwadih.
88		Kendwadih	Kendwadih, Jharia, E. I. R.	D. Bone, *1st class service, No. 9. Authorization, No. 127, to act as manager of more than one mine.*	...		...	272	81	Includes figures for Burragarh.
89	Hockly, W. A. Jharia P. O.	Ramkanali	Ramkanali, Katrasgarh, E. I. R.	E. Lightle, *Permit, No. 25.*	...	.....	...	...	...	
90	Howji, Tribhuban Dass Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Dollabji Howji, *2nd class service, No. 97.*	Ramji Purushuttum.	.....	...	91	70	
91	Huntodih Coal Co., Ld. (See column No. 7).	Huntodih (9 mines).	Huntodih, Katrasgarh, E. I. R.	A. G. Hailes, *1st class service, No. 61. Authorizations, Nos. 103 and 109, to act as manager of more than one mine.*	...	Shaw, Wallace Co., 20, Strand Road, Calcutta, or Post Box No. 70.	...	108	161	
92	Indian Collieries Syndicate, Ld. (See column No. 7).	Jamadoba	Jamadoba, Jharia, E. I. R.	R. H. Dundas, *1st class competency, No. 88, in lieu of English certificate.*	B. Fleming	Kilburn Co., 4, Fairlie Place, Calcutta, or Post Box No. 61.	...	1,845	487	
93	Jharia Coal Association (S. K. Mukherji) Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	Jamini Nath Bhattacharji, *Permit, No. 98.*	...	.....	...	...	...	
94	Jharia Coal Syndicate (See column No. 7).	Emampahari	Kujama, Jharia, E. I. R.	Sashi Bhusan Mukherji, *Permit, No. 110.*	...	Surendra Nath Sen, Koila Bose's Lane, Ramkrishnapur, Howrah P. O.	...	28	14	
95	Jharia Coal Syndicate, Ld. (See column No. 7).	Dheriajoba	Dheriajoba, Kusunda, E. I. R.	F. Miller, *1st class competency, No. 29, in lieu of English certificate.*	...	Jardine, Skinner & Co., 4, Clive Row, Calcutta.	...	190	55	
96	Jharia Colliery Co., Ld. (See column No. 7).	Bhaga	Bhaga, Jharia, E. I. R.	W. A. Hockly, *1st class service, No. 39.*	T. Simpson	Hoare, Miller & Co., 38, Strand Road, Calcutta, or Post Box No. 63.	...	202	117	
97	Jharia (East) Coal Co., Ld.	Jharia (East) or Goluckdih.	Goluckdih, Jharia, E. I. R.	E. A. Whyte, *1st class service, No. 74.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta, or Post Box No. 70.	...	170	44	Previously owned by the Great Eastern Coal Co.
98	Jharia Katras Coal Co.. (Bihari Lal Trigunait) Katrasgarh P. O.	Braroabara	Braroabara, Katrasgarh, E. I. R.	Prankishore Trigunait, *Permit, No. 140.*	...	.....	...	15	20	
99	Jharia (South) Coal Co. Bhujudih P. O.	Kandra (Upper)	Upper Kandra	Valamji Nensi	...	.....	...	...	...	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
100	John and Arratoon Kusunda P. O.	Ramgarh	Tetturia Ramgarh	Ashutosh Ghosh	...	.....	...	8	5	
101	Joyrampur Coal Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Ramji Halu, *2nd class service, No. 160.*	...	.....	...	100	30	
102	Joyrampur Coal Concern (J. K. Mukherji) 53, Chunapukur Lane, Calcutta.	Joyrampur	Joyrampur, Jharia, E. I. R.	Puranjan Mukherji *Permit, No 53.*	...	.....	...	35	26	
103	Jumoni Coal Co., Ld. (See column No. 7).	Madhuband (6 mines).	Madhuband, Katrasgarh, E. I. R.	L. St. J. Kelly, *1st class service, No. 42. Authorization, No. 99, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	339	265	H. C. Veasey, Agent.
104	Kabiraj, R. C. Sijua P. O.	Pandedih	Pandedih, Katrasgarh, E. I. R.	.....	...	.....	...	...	...	
105	Kanga & Co. Kusunda P. O.	Alkusa	Alkusa, Kusunda, E. I. R.	Ananta Ram Bhor, *2nd class competency, No. 26.*	...	.....	...	175	109	
106		Kiska	Kiska, Kusunda, E. I. R.		...	.....	...			
107	Katras Oriental Coal Syndicate Katrasgarh P. O.	Pandedih	Pandedih, Katrasgarh, E. I. R.	Bepin Behari Roy, *Permit, No. 71.*	...	.....	..	16	11	
108	Kendwadih Coal Co. Gajadhar Marwari, Nogendra Nath Mandal and Mukundaram Rai Nowagarh P. O.	Kendwadih	Kendwadih, Jharia, E. I. R.	Mukunda Lall Mondal, *2nd class service, No. 77.*	...	.....	...	18	19	
109	Kessurgurah Coal Co. (See column No. 7).	Kessurgurah	.....	Kumuda Nath Bose, *2nd class service, No. 152.*	...	M. L. Laik & Banerji, 7, Swallow Lane, Calcutta.	...	60	30	
110	Khaira Coal Syndicate, Ld. (See column No. 7).	Khaira	Khaira, Kusunda, E. I. R.	F. Miller, *1st class competency, No. 29, in lieu of English certificate.*	...	Jardine, Skinner & Co., 4, Clive Street, Calcutta, or Post Box No. 51.	...	180	40	
111		Kurkend	Kurkend, Kusunda, E. I. R.							
112	Khan Brothers (See column No. 7).	Kujama	Kujama, Jharia, E. I. R.	Abass Khan	...	Dr. G. N. Khan, 33, Canning Street, Calcutta.	...	29	76	
113	Khan, Rahim Feroz Katrasgarh P. O.	Tundu	Tundu, Katrasgarh, E. I. R.	Rauf Khan, *Permit, No. 33.*	...	.....	...	46	22	

114	Khandesh, Berar and Gujrat Coal Concern (Rastamji Ardesir Macadam.) Jharia P. O.	Chandrabad (2 mines).	Jharia, Jharia, E. I. R.	Nowroji Nusserwanji Ghandi.	...	.....	...	55	10	
115	Khas Jharia Coal Co. Jharia P. O.	Phularibad	Khas Jharia, Jharia, E. I. R.	Jnanendra Nath Mukherji, *1st class service, No. 91.*	...	.....	...	108	44	
116	Khas Jharia Colliery Co. (See column No. 7).	Khas Jharia	Khas Jharia, Jharia, E. I. R.	John Wilson, *1st class competency, No. in lieu of English certificate.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	300	160	G. M. Darby, Agent.
117	Khengarji Triku & Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Mawji Rudra, *Permit, No. 36.*	...	.....	...	48	19	
118	Khimji Moorji & Co. Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Gowamul Khimji, *Permit, No. 112.*	...	.....	...	50	25	
119	Khora Ramji Kutchi Jharia P. O.	Jharia Khas	Jharia Khas, Jharia, E. I. R.	...	...	.....	...	77	40	
120	Koondoo, Sunda Charan 4, Sambhu Babu's Lane, Calcutta.	Kesalpur	Kesalpur, Katrasgarh, E. I. R.	Charu Chandra Banerji, *Permit, No. 72.*	...	.....	...	29	20	
121	Kor, Sri Hari Jaydebkenduli P. O., Birbhum.	Dobari	Dobari, Jharia, E. I. R.	Dhon Hari Kor	...	.....	...	27	12	
122	Kujama (North) Coal Co. Jharia P. O.	Kujama	Kujama, Jharia, E. I. R.	...	...	.....	...	72	48	Lately Sainthia Coal Company's Muhuriband Colliery.
123	Kurkend (Central) Coal Co., Ld. (See column No. 7).	Kurkend	Kurkend, Kusunda, E. I. R.	D. A. Whyte, *1st class service, No. 45.*		Anderson, Wright & Co., 22, Strand Road, Calcutta, or Post Box No. 140.	...	336	325	
124	Kurkend Coal Co. (P. C. Roy and others) Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Indra Narayan Chandra, *1st class service, No. 89. Authorization, No. 185, to act as manager of more than one mine.*	...	.....	...	120	40	
125	Kusunda and Nayadi Collieries, Ld. (See column No. 7.)	Kusunda and Nayadi.	Kusunda, Kusunda, E. I. R.	C. L. Phillips, *1st class service, No. 100.*	G. John, *1st class service, No. 44.*	Martin & Co., 6 and 7, Clive Street, Calcutta, or Post Box No. 23.	...	1,604	680	
126	Lakorka Coal Co., Ld. (See column No. 7).	Lakorka	Lakorka, Katrasgarh, E. I. R.	Lalit Mohan Chowdhuri, *1st class service, No. 33.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	311	251	
127	Lall, Daroga Katrasgarh P. O.	Belanjabad	Belanjabad	Ram Ranjan Sikdar	...	.....	...	6	15	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
128	Lodna Colliery Co., Ld. (See column No. 7).	Chasnalla	Chasnalla, Jharia, E. I. R.	T. C. Murray, *1st class service, No. 66.*	...	Turner, Morrison & Co., 6, Lyons Range, Calcutta, or Post Box No. 68.	...	52	193	
129		Lodna (5 mines).	Lodna, Jharia, E. I. R.	H. J. Chambers, *1st class competency, No. 10, in lieu of English certificate.*	...		...	1,087	817	
130		Madhuband	Madhuband							
131	Lutchipur Coal Co., Ld. (See column No. 7).	Choitodih (10 mines).	Choitodih, Katrasgarh, E. I. R.	T. C. Barker, *1st class service, No. 67. Authorization, No. 40, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	234	450	H. C. Veasey, General Manager.
132	Mahato, Baidya Nath Katrasgarh P. O.	Bahiardih		Dawrika Prasad Lala, *Permit, No. 87.*	...	.....	...	...	...	
133	Manbhum (New) Coal Co., Ld. (See column No. 7).	Ganzlatan (2 mines).	Ganzlatan, Sijua, E. I. R.	T. C. Piggford, *1st class competency, No. 67, in lieu of English certificate. Authorization, No. 148, to act as manager of more than one mine.*	...	Octavius Steel & Co., 14, Old Court House Street, Calcutta, or Post Box No. 55.	...	168	110	
134	Marine Coal Co., Ld. (See column No. 7).	Kurkend (East)	Kurkend, Kusunda, E. I. R.	R. F. Augier, *1st class service, No. 26.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta, or Post Box No. 78.	...	55	110	(Lately owned by the East Kurkend Coal Company.
135	Motiram Coal Co. Kusunda P. O	Kurkend	Kurkend, Kucunda, E. I. R.	Ram Chandra Marwari, *1st class service, No. 103. Authorization, No. 29, to act as manager of more than one mine.*	...	.....	...	170	30	
136	Mucheridih Coal Syndicate (See column No. 7).	Mucheridih (7 mines).	Mucheridih	W. H. Topham, *1st class competency, No. 11. Authorization, No. 119, to act as manager of more than one mine.*	...	Bagram & Co., 14|2 Clive Street, Calcutta.	...	125	121	

137	Mukherji & Co., K. L. . . Katrasgarh P. O.	Tettulia . .	Tettulia, Katrasgarh, E. I. R. .	Poolin Behari Mittra, *1st class service, No. 56.*	...	.....	...	..	...	
138	Mukherji & Co., S. K. . . Sijua P. O.	Pandedih . .	Pandedih, Sijua, E. I. R. .	Nanda Lal Mukherji .	...	.....	...	52	13	
139	Muttigurra Coal Co., Ld. . . (See column No. 7).	Muttigurra . .	Muttigurra	F. B. Foster, *1st class service, No. 47.*	...	Octavius Steel & Co., 14 Old Court House Street, Calcutta, or Post Box No. 55.	...	...	...	
140	Nandi, Maharaja Manindra Chandra, Cossimbazar P. O., Murshidabad.	Ekra Khas . .	Ekra, Kusunda, E. I. R. .	Basanto Kumar Roy, *1st class service, No. 88.*	...	.....	...	400	62	Monmotho Nath Roy, General Manager.
141	Nanji, Khanji & Sanji . . Jharia P. O.	Kujama	Kujama, Jharia, E. I. R. .	Valji Kheta, *2nd class service, No. 75.*	...	.....	...	83	...	
142	National Coal Co. . . . (Radha Kinkur Chattoraj) Katrasagarh P. O.	Chandore . .	Chandore, Sijua, E. I. R. .	Upendra Nath Nandi, *Permit, No. 131.*	...	.....	...	15	4	
143	North-West Coal Co., Ld. . . (See column No. 7).	Ena . . . (2 mines).	Ena, Jharia, E. I. R. .	W. C. Heysham, *1st class service, No. 79. Authorization, No. 101, to act as manager of more than one mine.*	...	Andrew, Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...	130	80	
144	Nowagarh Coal Co., Ld. . . (See column No. 7).	Katras . . (13 mines).	Katras, Katrasgarh, E. I. R. .	T. K. Fleischer, *1st class service, No. 10. Authorization, No. 35, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	640	437	H. C. Veasey, General Manager.
145	Nudkhurki Coal Co. . . . (See column No. 7).	Nudkhurki . (14 mines).	Nudkhurki	Gopal Chandra Bhuttacharji, *1st class service, No. 77. Authorization, No. 165, to act as manager of more than one mine.*	...	Shragers, Ld., 7, Swallow Lane, Calcutta.	...	96	26	
146	Pain, B. L. . . . . Katrasgarh P. O.	Chandore . .	Chandore Sijua, E. I. R. .	Narendra Nath Roy, *Permit, No. 8.*	...	...	...	35	24	
147	Pandakanali Coal Co., Ld. . . (See column No. 7).	Pandakanali (3 mines).	Pandakanali . . .	B. S. Field, *1st class competency, No. 92, in lieu of English certificate. Authorization, No. 176, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	...	...	E. S. Bennertz, Agent.
148	Pandedih Coal Syndicate . . . (Bajrangbali Singh, Mit Narayan Singh & Munshi Lal Mistri) Katrasgarh P. O.	Pandedih . .	Pandedih, Sijua, E. I. R. .	Raghu Nath Lal	...	...	...	18	5	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
149	Pandeybera Colliery Co. (Daya Sankar Shamji) Jharia P. O.	Pandeybera	Kujama, Jharia, E. I. R.	Daya Sankar Shamji, *2nd class service, No. 19.*	...	...	...	51	37	
150	Parasea Collieries, Ld. (See column No. 7).	Nichitpur	Nichitpur	F. L. Cork, *1st class service, No. 30.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta, or Post Box No. 70.	...	...	...	
151	Parelgaria Coal Co. (Komolram Marwari) Kusunda P. O.	Parelgaria	Damra	Kishory Mohan Chatterji.	...	...	...	20	26	
152	Patel & Co. Kusunda P. O.	Kusunda	Kusunda, Kusunda, E. I. R.	Keshob Chandra Mitter, *2nd class service, No. 60.*	...	...	...	70	56	
153	Phularitand Coal Co., (See column No. 7).	Phularitand (4 mines).	Phularitand	Rhys Davies, *1st class competency, No. 43, in lieu of English certificate. Authorization, No. 177, to act as manager of more than one mine.*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	102	20	
154	Pipratand Coal Co., Ld. (See column No. 7).	Pipratand	Pipratand	John Marshall, *1st class competency, No. 85, in lieu of English certificate.*	...	Williamson, Magor & Co., 4, Mangoe Lane, Calcutta, or Post Box No. 177.	...	63	46	
155	Premji and Devshi Hamir Jharia P. O.	Durgapur	Durgapur, Jharia, E. I. R.	Devshi Hamir, *2nd class service, No. 1. Authorization, No. 178, to act as manager of more than one mine.*	...	...	...	90	70	
156		Futtehpur	Futtehpur, Jharia, E. I. R.							
157	Raha and Son, Sasi Bhusan (See column No. 7).	Godhur (4 mines).	Godhur, Kusunda, E. I. R.	Purna Chunder Biswas *1st class service, No. 105. Authorization, No. 87, to act as manager of more than one mine.*	...	...	...	151	59	Lately owned by Mylne & Co.
158	Ranidih Coal Co. (Sasi Bhusan Chatterji.) (See column No. 7).	Ranidih (4 mines).	Ranidih, Katrasgarh, E. I. R.	H. O. Hailes. *Permit, No. 116. Authorization, No. 174, to act as manager of more than one mine.*	...	S. Chatterji & Sons, 50, Nandaram Sen's Street, Calcutta.	...	...	...	

159	Raniganj Coal Association, Ld. (See column No. 7).	Kustore No. 1, District. (Workings at Ganhudi and North of Alkusa.)	Kiska, Kusunda, E. I. R.	S. Kirk, *1st class competency, No. 79, in lieu of English certificate.*	...	.....	...	226	135
160		Kustore No. 2, District. (Workings North of Kustore and South of Alkusa.)		J. B. Wilkinson, *1st class competency, No. 6. Authorization, No. 114, to act as manager of more than one mine.*	...	Kilburn & Co., 4, Fairlie Place, Calcutta, or Post Box No. 61.	...	14	142
161		Kustore No. 3 District. (15 and 16 seams.)		R. F. Campbell, *1st class competency, No. 56, in lieu of English certificate.*	...	.....	...	163	135
162	Reliance Coal Co., Ld. (See column No. 7).	Mudidih (8 mines).	Mudidih, Sijua, E. I. R.	A. A. V. Sam, *1st class service, No. 48. Authorization, No. 41, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	750	396
163	R. M. R. Coal Concern Jharia P. O.	Joyrampur	Joyrampur, Jharia, E. I. R.	Mavji Gokal, *2nd class service, No. 121.*	...	.....	...	70	27
164	Roy, J. K. Kusunda P. O.	Kusunda	Kusunda, Kusunda, E. I. R.	D. W. C. Smith, *2nd class service, No. 146.*	...	.....	...	60	40
165	Roy, Moheswar & Srikontho Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Brojo Kishore Sen, *Permit, No. 35.*	...	.....	...	43	53
166	Roy, P. C. Katrasgarh P. O.	Gansadih	Gansadih	Indra Narayn Chandra, *1st class service, No. 89. Authorization, No. 185, to act as manager of more than one mine.*	...	.....	...	70	30
167		Ramkanali	Ramkanali, Katrasgarh, E. I. R.	Gosto Behari Mozumdar, *Permit, No. 132.*	...	.....	...	55	14
168		Surataur	Jharia Khas, Jharia, E. I. R.	Pran Krishna Mozumdar, *2nd class service, No. 80.*	...	.....	...	46	46
169	Sanker, T. R. Kusunda P. O.	Gararia	Gararia, Kusunda, E. I. R.	Chuni Lal	...	.....	...	...	...
170	Seal, K. B. Jharia P. O.	Surataur	Jharia Khas, Jharia, E. I. R.	Ananta Lal Mukherji	Hari Prafulla Mukherji, *2nd class competency, No. 17.*	.....	...	155	44
171	Selected Coal Co. (Kalianji Shamji). (See column No. 7).	Kusunda	Kusunda, Kusunda, E. I. R.	Deoram Purshotam Vankani, *2nd class service, No. 30.*	...	Kanji Monji & Co., 210, Harrison Road, Calcutta.	...	99	38

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*							
172	Sendra Coal Co., Ld. (See column No. 7).	Sendra (2 mines).	Sendra, Sijua, E. I. R.	N. Miller, *1st class service, No. 50. Authorization, No. 141. to act as manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	137	88	
73	Sijua Coal Co., Ld. (See column No. 7).	Sijua (17 mines).	Sijua, Sijua, E. I. R.	Joseph Miller, *1st class service, No. 80. Authorization, No. 157, to act as manager of more than one mine.*	...	Balmer, Lawrie & Co., 103, Clive Street, Calcutta, or Post Box No. 4.	...	311	562	
174	Singh & Co., Atma Nowgarh P. O.	Khalsa	Bodora	.....	...	.....	..	30	10	
175	Singh, Bir Katrasgarh P. O.	Kesalpur (Imperial) (3 mines).	Kesalpur, Katrasgarh, E. I. R.	Ramantar Singh, *Permit, No. 120. Authorization, No. 183, to act as manager of more than one mine.*	...	.....	...	...	...	
176	Singh, Gour Mohan, Baroragarh, Nawagarh P. O.	Mandra Khas	Mandra	Romesh Chandra Das Gupta. *Permit No. 111.*	...	.....	...	...	..	
177	Singh, Jit Narayan and Mit Narayan. Katrasgarh P. O.	Mandra	Mandra	Sahid Khan	...	.....	...	...	...	
178	Singh, Jorabar Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	.....	...	.....	...	...	...	
179	Sinidih Coal Co., Ld. (See column No. 7).	Sinidih (3 mines).	Sinidih	John White, *1st class competency, No. 31, in lieu of English certificate. Authorization, No. 180, to act as manager of more than one mine.*	...	Williamson, Magor & Co., 4, Mangoe Lane, Calcutta, or Post Box No. 177.	...	134	235	
180	Sinidih Coal Concern (See column No. 7).	Sinidih	Sinidih	Noni Dhon Bhattacharji	...	Dr. G. N. Khan, 33, Canning Street, Calcutta.	...	50	50	

181	Sircar, R. B. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	Mathura Nath Ghosh, *2nd class service, No. 8.*	...	.....	...			
182	Smith, C. J. (See column No. 7).	Bagdiggi (3 mines)	Bagdiggi, Jharia, E. I. R.	J. W. Murphy, *1st class competency, No. 7. Authorization, No. 150, to act as manager of more than one mine.*	..	Hoare, Miller & Co., 38, Strand Road, Calcutta, or Post Box No. 63.	...	551	181		
183	Sowardih Coal Co. (N. L. Gorain and others) Jharia P. O.	Sowardih	Sowardih, Jharia, E. I. R.	Hari Prosanna Ghose	...	.....	...	152	125		
184	Srimani, J. N. Katrasgarh P. O.	Angarpatra	Angarpatra, Sijua, E. I. R.	Rakhal Das Mukherji, *2nd class service, No. 76.*	...	.....	...	110	85		
185		Kantapahari	Kantapahari, Sijua, E. I. R.	Sasi Bhusan Banerji. *Permit, No. 58.*	...	.....	...	80	20		
186	Standard Coal Co., Ld. (See column No. 7).	Benahir	Benahir, Jharia, E. I. R.	G. M. Darby, *1st class service, No. 1.*	S. B. Banerji	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	400	250	G. M. Darby, Agent.	
187		Hariladih	Hariladih, Jharia, E. I. R.	N. Miller, *1st class service, No. 50. Authorization, No. 14, to act as manager of more than one mine.*	...			135	95		
188		Jharia Khas	Jharia Khas, Jharia E. I. R.	Walter Jardine, *1st class competency, No. 86, in lieu of English certificate.*	...	.....	..	425	230		
189	Sudamdih Coal Co., Ld. Jharia P. O.	Sudamdih	Sowardih, Jharia, E. I. R.	W. T. S. Gibson	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	87	51		
190	Sudamdih Coal Co., Ld. Kusunda P. O.	Kurkend	Kurkend, Kusunda, E. I. R.	John Knox, *1st class competency, No. 84, in lieu of English certificate.*	...		...	220	78	Lately owned by the Jewel Coal Co.	
191	Sudriadih Coal Co., Ld. Nowagarh P. O.	Sudriadih	Sudriadih, Katrasgarh, E. I. R.	W. Combey, *1st class competency, No. 68, in lieu of English certificate.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta, or Post Box No. 70.		110	135		
192	Tandabari Coal Syndicate Sijua P. O.	Tandabari (4 mines).	Tandabari	Ras Behari Basu, *Permit, No. 96.*	...	.....	...	72	91		
193	Tentulia Colliery Co. Katrasgarh P. O.	Tentulia (6 mines).	Tentulia	Gosto Behary Roy, *2nd class service, No. 124. Authorization, No. 161, to act as manager of more than one mine.*	...	D. N. Ghosh & Bros., North Bantra, Howrah.	...	106	50	E. M. Patterson, Managing Director.	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*concld.*							
194	Tetturia (New) Coal Co., Ld. Katrasgarh P O.	Tetturia (6 mines).	Tetturia, Katrasgarh, E. I. R.	Geo. Emmerson, *1st class competency, No. 83, in lieu of English certificate. Authorization, No. 162, to act as manager of more than one mine.*	...	Shaw, Wallace & Co., 20, Strand Road, Calcutta, or Post Box No. 70	...	737	188	
195	Tetturia (West) Collieries, Ld. (C. M. Carapiet) Katrasgarh P. O.	Tetturia	Tetturia, Katrasgarh, E. I. R.	R. S. Ashcroft, *Authorization, No. 4, to manage the mine temporarily.*	...	.....	...	112	102	
196	Titulmuri Coal Co., Ld. Sijua P. O.	Titulmuri (3 mines).	Titulmuri, Sijua, E. I. R.	E. G. Seth Sam, *1st class service, No. 75. Authorization, No. 42, to act as manager of more than one mine.*	...	.....	...	400	135	C. H. Armstrong, Managing Director.
197	Trigunait, Bhubaneswar Sijua P. O.	Pandedih	Pandedih, Sijua, E. I. R.	Sasi Bhusan Ghosh, *2nd class service, No. 52.*	...	.....	...	..	...	Figures included in M. Trigunait's Angarpatra and Kantapahari collieries.
198	Trigunait, Brojo Bhusan Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sasi Bhusan Ghose, *Permit, No. 93.*	...	.....	...	71	41	
199		Ramkanali	Ramkanali, Katrasgarh, E. I. R	Bisesswar Roy, *Permit, No. 107.*	...	.....	...	33	22	
200	Trigunait Brothers Coal Co. Katrasgarh P. O.	Angarpatra	Angarpatra, Sijua, E. I. R.	Mukunda Lall Missra, *2nd class service, No. 163.*	Sitikontha Kabiraj.	.....	...	196	115	
201	Trigunait, Mukteswar Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sasi Bhusan Ghosh, *2nd class service, No. 52.*	...	...	...	154	91	Includes figures for B. Trigunait's Pandedih Colliery.
202		Kantapahari	Kantapahari, Sijua, E. I. R.							
203	Trigunait, Sudarsan Katrasgarh P. O.	Chandore	Chandore, Sijua, E. I. R.	Sorbeswar Chatterji, *Permit, No. 100. Authorization, No. 47, to act as manager of more than one mine.*	...	...	...	44	4	
204		Pandedih	Pandedih, Sijua, E. I. R.		...	...	...	3	2	

205	Union Coal Co., Ld. (See column No. 7).	Angarpatra (6 mines.)	Angarpatra Sijua, E. I. R.	R. Purdy, *1st class service, No. 93, in lieu of English certificate. Authorization, No. 169, to act as manager of more than one mine.*	...	Williamson, Magor & Co., 4, Mangoe Lane, Calcutta, or Post Box No. 177.	...	140	90	
206	Verakotah Syndicate, Ld. Jharia P. O.	Verakotah	Verakotah, Jharia, E. I. R.	H. J. L. Belletti, *1st class service, No. 3.*	...	H. J. L. Belletti, Jharia	...	...	...	
207	Vithalram Coal Co. (See column No. 7).	Bodora	Bodora	Narotam Hari Shunkar, Ojha. *Permit, No. 156.*	...	Dr. G. N. Khan, 33, Canning Street, Calcutta.	...	...	...	
208	Vurma Coal Co. Bankipur P. O., Patna.	Pinalgoria	Pinalgoria	Sankar Singh, *Permit, No. 59.*	...	Jamuna Prasad and Jataram Lal, Katrasgarh P.O.	...	8	10	
209	Western India Coal Trading Co. Nowagarh P. O.	Western India	Nudkhurki	.....	...	K. Desai & Co., Nadiad P. O., B. B. & C. I. R.	...	62	43	hakore, Agent.

Bengal—Raniganj Coalfield (No. 2 Inspection Circle).

1	Abdul Karim & Bros. Barakar P. O.	Kapasara (10 Bighas plot.)	Kapasara, Mugma, E. I. R.	Gupat Nath Missir, *Permit, No. 141.*	...	.....	..	29	11	
2		Kapasara (15 Bighas plot.)	Kapasara, Mugma, E. I. R.	Ahmed Yusuf, *Permit, No. 142.*	...	.....	...	...	...	
3	Adam Joosah & Co. Barakar P. O.	Kapasara	Kapasara, Mugma, E. I. R.	Ashutosh Missra, *Permit, No. 104.*	...	.....	...	15	5	
4	Ahmed Yusuf Barakar P. O.	Egarcoor	Egarcoor, Mugma or Barakar, E. I. R.	Trimbaklal Umiashanker Dholakia.	...	.....	...	12	3	
5	Aldih Coal Co., Ld. (See column No. 7.)	Aldih (3 mines.)	Aldih, Sitarampur, E. I. R.	W. M. Martin, *1st class competency, No. 64, in lieu of English certificate. Authorization, No. 128, to act as manager of more than one mine.*	...	MacNeill & Co., 1/2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	707	157	W. Miller, Superintendent.
6	Annapurna Coal Co. (Ram Bondhu Maji and Lachmi Narayan Marwari) Kulti P. O.	Birsingpur	Birsingpur	Gouri Sankar Roy Chowdhury, *2nd class service, No. 73.*	...	.....	...	17	26	
7	Banerji, Bidhu Sekhar Salanpur P. O.	Sabanpur (3 mines.)	Sabanpur	Gobordhan Banerji, *Permit, No. 97. Authorization, No. 160, to act as manager of more than one mine.*	...	.....	...	21	14	
8	Baraboni Coal Concern, Ld. (See column No. 7.)	Chinchuria	Chinchuria, Baraboni or Asansol, E. I. R.	Pulin Behari Mittra, *1st class service, No. 56. Authorization, No. 144 to act as manager of more than one mine*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	221	277	W. Burt, Superintending Engineer.
9		Nuni	Nuni, Sitarampur or Asansol, E. I. R.				...	146	112	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorisation or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*							
10	Baraboni Coal Concern, Ld. (See column No. 7.)	Sudih	Sudih	Purna Chundra Ganguli, *2nd class service, No. 49.*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	284	105	
11	Barakar Brick and Tile Syndicate. Barakar P. O.	Garphalbari	Garphalbari, Mugma, E. I. R.	G. Shearer,* *2nd class service, No. 10.*	...	.....	...	33	4	* Also Managing Director.
12	Barakar Coal Co., Ld. (See column No. 7.)	Alipur	Alipur	F. A. Roberts, *1st class competency, No. 13.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46	...	46	69	
13		Kumardubi (2 mines.)	.....	W. F. Seton-Burn, *1st class service, No. 125. Authorization, No. 158, to act as manager of more than one mine.*						
14	Barakar Coal Syndicate (See column No. 7.)	Jograd	Jograd	Kamikhya Nath Ghattack, *2nd class service, No. 18.*	...	K. L. Mukherji & Co., 29, Pollock Street, Calcutta.	...	...	...	
15	Barakar (West) Coal Co. Barakar P. O.	Mugma	Mugma, Mugma, E. I. R.	Ram Gopal Dey, *Permit, No. 137.*	...	.....	...	...	...	
16	Beerbhum (New) Coal Co., Ld. (See column No. 7.)	Belrui	Belrui, Sitarampur, E. I. R.	Amos Lowe, *1st class service, No. 81.*	...	Balmer, Lawrie & Co., 103, Clive Street, Calcutta, or Post Box No. 4.	...	155	132	S. Heslop, Superintendent.
17		Borrea	Borrea, Kulti, E. I. R.	J. G. Maughan, *1st class service, No. 13.*	...		...	638	617	
18		Chanch	Chanch, Barakar, E. I. R.	W. Forster, *1st class service, No. 12.*	J. Hyde		...	1,009	524	
19		Dumarkunda	Dumarkunda, Barakar, E. I. R.							
20		Hatnel	Sanctoria, Barakar, E. I. R.							
21		Laikdih	Laikdih, Barakar, E. I. R.							

22	Bengal Coal Co., Ld. 5, Fairlie Place, Calcutta, or Post Box No. 117.	Sanctoria (2 mines.)	Sanctoria, Barakar, E. I. R.	P. H. Ashcroft, *1st class service, No. 11. Authorization, No. 145, to act as manager of more than one mine.*	..	See column No. 2	...	606	265	G. F. Scott, Chief Mining Engineer.
23		Sitalpur	Sitalpur, Barakar, E. I. R.	A. J. Cooper, *1st class competency, No. 8.*	..		...	493	93	
24		Sodepur	Sodepur, Sitarampur or Barakar, E. I. R.	R. S. Davis, *1st class competency, No. 81 in lieu of English certificate.*	L. A. Biddle			1,263	619	
25	Bengal Imperial Coal Co. Barakar P. O.	Mugma	Mugma, Mugma, E. I. R.	Jadunath Chackerbutty	...	.....	...	...	...	
26	Bengal Iron and Steel Co., Ld. (See column No. 7.)	Kendwa	Kendwa, Barakar or Kulti, E. I. R.	A. H. M. Paton, *1st class competency, No. 39, in lieu of English certificate. Authorization, No. 139, to act as manager of more than one mine.*	...	Martin & Co., 6 and 7, Clive Street, Calcutta, or Post Box No. 23.	...	69	13	
27		Ramnagar	Ramnagar, Barakar or Kulti, E. I. R.		...			202	32	
28	Bengal Nagpur Coal Co., Ld. (See column No. 7.)	Gangutia	Gangutia, Barakar, E. I. R.	H. M. Daley, *1st class service, No. 28. Authorization, No. 90, to act as manager of more than one mine.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...	241	65	
29	Bengal Oriental Coal Co. Barakar P. O.	Kapasara	Kapasara, Mugma, E. I. R.	Mugat Ram Nagar, *Permit, No. 130. Authorization, No. 56, to act as manager of more than one mine.*	...	.....	...	30	10	
30	Bhattacharji & Co., U. C. Barakar P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	Ramanath Dass	...	.....	...	112	27	
31	Bhattacharji, Jagadishwar, Dawn, Upendra Nath, & Kobi, Behari Lal, Barakar P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	.....	...	.....	...	...	...	
32	Birsingpur Coal Co. (Abhoya Charan Banerji.) Nirshachati P. O.	Birsingpur	Birsingpur	Ram Nayas Kanji, *Permit, No. 122.*	...	.....	...	17	16	
33	Ponjamari Coal Co. Charanpur P. O.	Bonjamari	Bonjamari, Baraboni or Asansol, E. I. R.	Ram Chandra Mukherji, *Permit, No. 88.*	...	.....	...	17	16	
34	Borria Coal Co., Ld. (See column No. 7.)	Salanpur	Salanpur, Salanpur or Sitarampur, E. I. R.	John Gilmour, *1st class competency, No. 11, in lieu of English certificate.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	..	514	65	J. Macintosh, Superintendent.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed: Below ground.	Persons employed: Above ground.	Remarks.
			Bengal—Raniganj Coalfield (No. 2 Inspection Circle—*contd.*							
35	Brindabonpur Coal Co. (Horogobindo Goswamy, and Kanairam Marwari.) Mugma P. O.	Brindabonpur	Brindabonpur	Harish Chandra Roy	...	.....	...	...	...	
36	Burn & Co., Ld. Raniganj P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	Pramatha Nath Missir, *Permit, No. 161.*	...	Burn & Co., 7, Hastings Street, Calcutta, or Post Box No. 191.	...	19	12	
37	Charnock Collieries, Ld. (See column No. 7.)	Charnock (5 mines).	Sarakdih	J. W. Thornton, *1st class competency, No. 16. Authorization, No. 159, to act as manager of more than one mine.*	...	Societa Coloniale di Trieste, 134, Canning Street, or Post Box No. 132, Calcutta.	...	..	...	
38	Chatterji Colliery Co. (A. C. Chatterji). 12/4 & 12/5, Pataldanga Street, Calcutta.	Mouthdih	Mouthdih, Sitarampur, E. I. R.	Kedar Nath Chatterji, *2nd class service, No. 112.*	...	.....	...	...	40	
39	Chatterji, Ram Bandhu Dishargarh P. O.	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	Rhishi Kesh Ghosh, *Permit, No. 44.*	...	.....	...	58	11	
40	Chatterji, Shashi Bhusan 46A, Strand Road, Calcutta.	Khudia	Shampur, Mugma, E. I. R.	.....	...	.....	...	45	35	
41	Chhaganlal Nagar Barakar P. O.	Egarcoor	Egarcoor, Mugma, E. I. R.	Ramji Vishram Chanda, *Permit, No. 99.*	...	.....	...	13	5	
42	Chirkunda (New) Coal Co. (Jugal Kissor Marwari & others.)	Egarcoor	Egarcoor, Mugma, E. I. R.	Harish Chandra Roy, *Permit, No. 105.*	...	.....	..	48	36	
43	Chota Dhemo Coal Co. (See column No. 7).	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	Aswini Kumar Dutta, *2nd class competency, No. 12.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	94	39	
44	Damra Coal Co., Ld. (See column No. 7).	Nuni	Nuni, Sitarampur or Asansol, E. I. R.	Devendra Nath Chakravarty.	...					
45	Damuda Coal Co., Ld. (See column No. 7.)	Bamundiha	Bamundiha, Sitarampur, E. I. R.	C. H. McCale, *1st class competency, No. 30, in lieu of English certificate. Authorization, No. 121, to act as manager of more than one mine.*	J. Delmas	Balmer, Lawrie & Co., 103, Clive Street, Calcutta, or Post Box No. 4.		200	78	
46		Burra Dhemo	Burra Dhemo							
47		Gopalpur	Gopalpur, Sitarampur, E. I. R.							
48		Lutchipur	Lutchipur, Sitarampur, E. I. R.				...	250	90	

49	Dutt, Jadab Chandra . . . Barakar P. O.	Mugma . .	Mugma, Mugma, E. I. R. .	Madhab Chandra Dutta	...	.....	...	16	13		
50	Dutt Kabra Coal Co. . . Barakar P. O.	Begunia . .	Begunia, Barakar, E. I. R. .	Nagendra Nath Banerji. *Permit, No. 86.*	...	.....	...	47	5		
51		Egarcoor . .	Egarcoor, Mugma, E. I. R. .	Hem Chand Jugjiban Mehta.	...	.....	...	23	14		
52	Dutt, Prasanno Coomar . . Sitarampur P. O.	Bamundiha .	Bamundiha, Sitarampur, E. I. R.	Hari Charan Dutt, *1st class service, No. 24. Authorization, No. 80, to act as manager of more than one mine.*	...	.. ...	...	14	11		
53	East Indian Coal Co., Ld. . . (See column No. 7.)	Agoa . .	Agoa, Mugma, E. I. R. .	Koilas Chandra Banerji, *2nd class service, No. 3.*	...	Jardine, Skinner & Co., 4, Clive Row, Calcutta, or Post Box No. 51.	...	30	17	J. J. Turnbull, General Manager.	
54	Equitable Coal Co., Ld. . (See column No. 7.)	Chowrasi .	Chowrasi, Barakar, E. I. R. .	Adam Murdoch, *1st class competency, No. 63, in lieu of English certificate.*	...	McNeill & Co., 1/2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	852	154	W. Miller, Superintendent.	
55		Dishargarh .	Dishargarh, Barakar, E. I. R. .	R. C. Barrowman, *1st class competency, No. 24, in lieu of English certificate.*	...		...	1,480	330		
56	Fatka Coal Co. (M. L. Laik; M. G. Chandra and others.) Nirshachati P. O.	Fatka or Pandedih.	Pandedih, Mugma, E. I. R. .	Pravakar Chatterji, *2nd class competency, No. 19.*	...	.....	...	54	9		
57	Friends Coal Co. . . . (Indra Bhushan Mukherji and Jagabandhu Roy). Nirshachati P. O.	Bandarchooa .	Bandarchooa . . .	Srinath Banerji, *Permit, No. 92.*	...	.....	...	..	...		
58	Ganguly, Janendra Nath . Sitarampur P. O.	Sudihi . .	Sudihi, Sitarampur, E. I. R. .	Bibhuti Bhusan Ganguli.	...	.....	...	...	...		
59	Ganguly, Sircar, Roy & Co. . Samdi P. O. *Via* Sitarampur	Khoirabad . .	Khoirabad	Debendra Nath Ganguli	...	.....	...	...	...		
60	Ghose, Kunja Behari . . Kulti, Burdwan.	Ketherdih . .	.....	.....	...	.....	...	30	5		
61		Palasia . .	Palasia	Kunja Behari Ghose .	...	.....	...	...	...		
62	Gorain, Nanda Lall and others . Barakar P. O.	Begunia . .	Begunia, Barakar, E. I. R. .	Rajendra Lal Sarkar .	...	.....	...	52	9		
63	Jafar Yusuf . . . . Barakar P. O.	Kapasara . .	Kapasara, Mugma, E. I. R. .	Sarbeswar Sen, *Permit, No. 106.*	...	.....		...	...		

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company, arranged in alphabetical order and postal address.	Name of Mine and number, of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager, and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*							
64	J. N. Coal Co. (Prasad Raghunundun and Brothers). (See column No. 7.)	Purra Dhemo	Burra Dhemo	.....	...	Ramesur Flour Mills, 33, Hugul Kuria Gulli, Calcutta.		...	...	
65	Kalyaneswari Coal Co. Mugma P. O.	Kapasara	Kapasara Mugma, E. I. R.	Jyotirmoy Konar	...	.....		...	...	
66	Laik, M. L. 7, Swallow Lane, Calcutta.	Hatnol	Hatnol	Baidya Nath Acharjia, *2nd class service, No. 24.*	...	.....	...	9	19	
67	Lalla, Luchman Prosad Chirkunda P. O.	Kalimati	Kalimati, Barakar or Mugma, E. I. R.	Luchman Prosad Lalla, *Permit, No. 133.*	...	.....	...	30	5	
68	Lutchipur Coal Co., Ld. (See column No. 7.)	Lutchipur	Lutchipur, Sitarampur, E. I. R.	G. O. Reaks, *1st class service, No. 53.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	91	126	E. C. Agabeg, General Manager.
69		Panchgatchia	Panchgatchia, Sitarampur, E. I. R.	E. L. Barnett, *1st class service, No. 99.*	...		...	340	410	
70	MacNeill and Co. 1/2 Clive Ghat St., Calcutta, or Post Box No. 15	Bejdih (4 mines.)	Bejdih	P. Brimlow *1st class competency, No. 100, in lieu of English certificate. Authorization, No. 201, to act as manager of more than one mine.*	...	.....	...	...	...	W. Miller, Agent.
71	Manbhum (New) Coal Co., Ld. (See column No. 7.)	Dhundabad	Dhundabad, Sitarampur, E. I. R.	W. L. Amis, *2nd class service, No. 45.*	...	Octavius Steel & Co., 14, Old Court House Street, Calcutta, or Post Box No. 85.		263	99	
72	Martin, Thomas Nirshachati P. O.	Badjna	Badjna	W. O. Whiffen, *2nd class service, No. 114.*	...	.....	...	3	25	
73	Misra, Mangobinda and Roy, Rama Nath. Samdi P. O. *Vid* Sitarampur.	Pahargora	Pahargora	Mangobinda Misra *Permit, No. 125.*	...	.....	...	...	...	
74	Misra, Shama Charan Samdi P. O. *Vid* Sitarampur.	Mahanpur (3 mines.)	Mahanpur	Shama Charan Misra, *Permit, No. 103. Authorization, No. 179, to act as manager of more than one mine.*	...	.....	...	...	...	

75	Mugma Coal Association (H. M. Banerji). Barakar P. O.	Mugma	Mugma, Mugma, E. I. R.	Jugal Kishore Mukherji. *Permit, No. 135.*	...	.....	...	30	25	
76	Mukherji, Baman Dass Dishargarh P. O.	Chota Dhemo	Chota Dhemo, Sitarampur, E. I. R.	Hari Pado Mukherji, *1st class service, No. 55.*	..	... ..	...	162	79	
77	Mukherji, Tinkari, 9/1, Sircar's Lane, Calcutta.	Dhadkadi	Dhadkadi	Hrishikesh Chatterji *Permit, No. 84.*	..	J. L. Banerji & Co., 14, Clive Street, Calcutta.	...	...	...	
78	Mukherji, Umesh Chandra Asansol P. O.	Borachak	Borachak, Borachak, E. I. R.	Raj Ballav Mukherji, *2nd class service, No. 34.*	..	.....	...	88	43	
79	Nandi, Maharaja Manindra Chandra. Cossimbazar P. O., Murshidabad.	Begunia	Begunia, Barakar, E. I. R.		..	.....	...	...	...	Monmotho Nath Roy General Manager.
80		Begunia Khas	Begunia, Barakar, E. I. R.		...	.....	...	153	48	
81	Nodiha Coal Co., Ld. Dishargarh P. O.	Nodiha	Nodiha	A. F. Pennefather, *2nd class service, No. 15, also 1st class competency, No. 1.*	...	McNeill & Co., 1/2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	69	30	W. Miller, Superintendent.
82	Parekh, Kasu Lal Barakar P. O.	Rajpura	Rajpura, Mugma or Barakar, E. I. R.	Kasu Lall Parekh	...	.....	...	...	..	
83	Parekh, Keshob Lall Nirshachati P. O.	Sindri	Sindri	Dakhineswar Ghosal, *Permit, No. 136.*	...	.....	...	48	18	
84	Patel, Hati Bhai Barakar P. O.	Rajpura	Rajpura, Mugma or Barakar, E. I. R.	Hati Bhai Patel *Permit, No. 66.*	...	.....	...	...	...	
85	Patel, Lallu Bhai Chirkunda P. O.	Rajpura	Rajpura, Mugma or Barkar, E. I. R.	Lallu Bhai Patel *Permit, No. 65.*	...	.....	...	8	12	
86	Patlabari Coal Syndicate (Mulji Jetha & Chuni Lal).	Patlabari	Patlabari	Mahendra Narayan Raya.	...	.....	...	285	11	
87	Roy, Bonowari Lal Barakar P. O.	Kalimati	Kalimati, Barakar or Mugma, E. I. R.	Bonowari Lal Roy, *Permit, No 108.*	...	.....	..	20	6	
88	Roy, Jugal Kishore Asansol P. O.	Palashdiha	Palashdiha, Asansol, E. I. R.	D. W. C. Smith, *2nd class service, No. 146.*	...	.....	...	97	40	
89	Roy, Rohini Kumar Barakar P. O.	Kalimati	Kalimati, Barakar or Mugma, E. I. R.	Rohini Kumar Roy, *2nd class service, No. 157.*	...	.....	...	7	16	
90	Royal Bengal Coal Co. (Nitambini Dassi). Barakar, E. I. R.	Kusumkanali	Kapasara, Mugma, E. I. R.	Dukha Haran Mukherji, *2nd class service, No. 21.*	...	... ..	...	100	50	
91	Saltore Coal Co., Ld. (See column No. 7.)	Saltore (3 mines.)	Saltore	Geo. Dixon, *1st class competency, No. 46, in lieu of English certificate. Authorization, No. 116, to act as manager of more than one mine.*	...	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	33	253	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above Ground.	
			Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*concld.*							
92	Seal, Aghore Nath Nirshachati P. O.	Sangamahal	Sangamahal, Mugma, E. I. R.	...	...	.....	...	100	17	
93	Shampur Coal Co., Ld. (See column No. 7.)	Bamundiha	Bamundiha, Sitarampur, E. I. R.	A. W. Wood, *1st class service, No. 117. Authorization, No. 168, to act as manager of more than one mine.*	...	George Henderson & Co., 100, Clive Street, Calcutta, or Post Box No. 237.	...	360	352	Figures included in that of Sundarchak.
94		Shampur	Shampur, Mugma, E. I. R.							
95		Sundarchak	Sundarchak, Sitarampur, E. I. R.		...			88	75	Figures for Bamundiha included.
96	Shungamahal Collieries, Ld. (See column No. 7.)	Sangamahal	Sangamahal, Mugma, E. I. R.	G. D. Scott, *1st class competency, No. 2.*	...	Colonial Trading Co. of Trieste, Ld., 134, Canning Street, Calcutta, or Post Box No. 132.	...	...	...	
97	Sircar & Sons, N. C. 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	Khudka	Khoodka	Sachindranath Bose, *2nd class service, No. 100.*	...	.....	...	44	12	
98	Sircar, Bidhu Bhusun Samdi P. O.	Binadikatta	Binadikatta, Salanpur, E. I. R.	Bidhu Bhusan Sircar, *Permit, No. 109.*	...	.....	...	11	28	
99	Sitarampur Coal Co., Ld. (See column No. 7.)	Narsamuda	Narsamuda, Asansol or Borachak, E. I. R.	W. V. Hannaford, *1st class service, No. 22.*	...	Lyall, Marshall & Co., 25, Mangoe Lane, Calcutta, or Post Box No. 6.	...	350	290	
100	Sudihi Coal Co., Ld. (See column No. 7.)	Raghunathbatty	Raghunathbatty, Sitarampur, E. I. R.	L. A. Jacobs, *1st class competency, No. 37, in lieu of English certificate. Authorization, No. 134, to act as manager of more than one mine.*	...	McLeod & Co., 31, Dalhousie Square, South, Calcutta, or Post Box No. 78.	...	...	...	Figures included in that of Sudihi.
101		Sudihi	Sudihi, Sitarampur, E. I. R.			.....	...	341	165	Figures include that for Raghunathbatty.
102	Suitable Coal Co. (Chhagan Lall Nagar) Barakar P. O.	Egarcoor	Egarcoor, Mugma or Barakar, E. I. R.	Mugat Ram Nagar, *Permit, No. 38. Authorization, No. 56, to act as manager of more than one mine.*	...	.....	...	22	8	

Bengal—Raniganj Coalfield (No. 3 Inspection Circle).

1	Adjai Coal Co., Ld. (See column No. 7)	Nandi (2 mines).	Nandi, Jamuria or Raniganj, E. I. R.	Robert Mitchell, *1st class service, No. 2. Authorization, No. 131, to act as manager of more than one mine.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...	460	276	
2	Apcar & Co. 19, Radha Bazar, Calcutta.	Charanpur	Domohani, Baraboni or Asansol, E. I. R.	E. M. Patterson, *1st class service, No. 4.*	...	See column No. 2	...	224	247	F. J. Agabeg, General Manager.
3	Bagchi, Purna Chandra Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	...	...	Tansook Roy, Ram Kumar, 12, Mullick Street, Bara Bazar, Calcutta.	..	...	3	
4	Baliram Coal Co. Kalipahari P. O.	Ghusik	Ghusik, Kalipahari, E. I. R.	Ananta Lall Ghosh, *1st class service, No. 115. Authorization, No. 38, to act as manager of more than one mine.*	...	.....	...	175	80	
5	Baliram Coal Co. Kalipahari P. O.	Srikistopur or Mosila.	Kalipahari, Kalipahari, E. I. R.	...	...	.....	...	70	45	
6	Bamundiha Coal Concern Kalipahari P. O.	Chattapathar	Chattapathar, Kalipahari, E. I. R.	Lucken Chandra Mittra, *2nd class service, No. 31.*	Radha Bullov Chuckerbutty.	Dwarka Nath Khettry, 89, Cross Street, Calcutta.	...	68	87	
7	Banerji Collieries (Indra Nath Banerji). Chowkidanga P. O.	Jotejanaki	Jotejanaki, Toposi or Raniganj, E. I. R.	Pramatha Nath Hazra, *2nd class service, No. 110. Authorization, No. 166, to act as manager of more than one mine.*	Ram Pada Hazra.	.....	...	91	44	
8	Banerji Collieries (Indra Nath Banerji). Chowkidanga P. O.	Kenda								
9	Banerji, Haribar. Kalipahari P. O.	Ghusik (West)	Ghusik, Kalipahari, E. I. R.	Surendra Nath Mukherji, *2nd class service, No. 161.*	Kani Lall Adikheri.	.....	...	105	25	
10	Banerji, Kashi Bilash Raniganj P. O.	Jamunakanali	Jamunakanali, Raniganj, E. I. R.	Protap Chandra Topadar, *2nd class service, No. 105.*	...	.....	...	...	...	
11	Banerji, Raghu Nath and others Mejia P. O., *vid* Raniganj.	Kalikapur	Kalikapur, Raniganj, E. I. R.	Lal Bihari Kumbhakar, *Permit, No. 80.*	...	.....	...	37	8	
12	Pankura Coal Co. (H. H. Banerji and R. C. Mukherji), Kalipahari P. O.	Dobalia	Kalipahari, Kalipahari, E.I.R.	Surendra Nath Mukherji, *2nd class service, No. 161.*	...	.....	...	21	12	Harihar Banerji, General Manager.
13	Baraboni Coal Association Charanpur P. O.	Baraboni	Paraboni, Asansol or Baraboni, E. I. R.	James Brown, *1st class competenoy, No. 102, in lieu of English certificate.*	...	N. C. Sircar & Sons, 5 Clive Ghat Street, Calcutta, or Post Box No. 285.	...	61	25	Formerly owned by Burman & Co.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed. Below ground.	Persons employed. Above ground	Remarks.
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
14	Baraboni Coal Concern, Ld. (See column No. 7).	Baraboni	Baraboni, Asansol or Baraboni, E. I. R.	James Brown, *1st class competency, No. 102, in lieu of English certificate.*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta or Post Box No. 285.	...	113	61	W. Burt, Superintending Engineer.
15		Haripur	Haripur, Toposi or Raniganj, E. I. R.	Sorut Chandra Dutt, *2nd class service, No. 88.*	...		...	98	13	
16		Nimcha	Nimcha, Raniganj, E. I. R.	Suresh Chandra Sarkar, *2nd class service, No. 66.*	...		...	91	104	
17	Baraboni (New) Coal Co. (Kunja Behari Pal Chowdhuri and others), Charanpur P. O.	Baraboni (New)	Baraboni, Asansol or Baraboni, E. I. R.	Debendra Nath Bhattacharji.	...	.....	...	...	...	
18	Baraboni (South) Coal Co. (Kunja Behari Pal Chowdhuri), Charanpur P. O.	Baraboni (South)	Baraboni, Asansol or Baraboni, E. I. R.	F. C. Lardner, *2nd class service, No. 90. Authorization, No. 110, to act as manager of more than one mine.*	...	.....	...	49	21	
19	Baraboni (West) Coal Co. Charanpur P. O.	Napara (South)	Baraboni, Asansol or Baraboni, E. I. R.	...	...	.....	...	...	...	
20	Barakar Coal Co., Ld. (See column No. 7).	Jamgram	Jamgram, Gaurangdi, E. I. R.	...	...	Bird & Co., 101/1, Clive Street, Calcutta, or Post Box No. 46.	...	315	350	E. C. Agabeg, Superintendent.
21		Kantapahari	Kantapahari, Gaurangdi, E. I. R.	E. G. Nash, *2nd class competency, No. 23.*	...		...	322	126	
22	Basanti Oakdene Coal Co. (See column No. 7).	Basantipur	Mamudpur, Toposi or Raniganj, E. I. R.	G. Stacey, *2nd class service, No. 93. Authorization, No. 9, to act as temporary manager of more than one mine.*	...	Stanley Oakes & Co., 5, Mangoe Lane, Calcutta.	...	78	49	
23		Mouzra								

24	Beerbhum (New) Coal Co., Ld. (See column No. 7).	Baraboni	Baraboni, Asansol or Baraboni, E. I. R.	A. Russell, *1st class competency, No. 54, in lieu of English certificate. Authorisation, No. 67, to act as manager of more than one mine.*	...	Balmer, Lawrie & Co. 103, Clive Street, Calcutta, or Post Box No. 4.	...	890	332	Contains figures for Jairamdanga as well.
25		Chinchuria (7 mines).	Chinchuria, Baraboni or Asansol, E. I. R.	Charles Lea, *1st class competency, No. 53, in lieu of English certificate. Authorization, No. 118, to act as manager of more than one mine.*	...			142	116	S. Heslop, General Manager.
26		Jairamdanga (2 mines).	Jairamdanga, Asansol or Baraboni, E. I. R.	A. Russell, *1st class competency, No. 54, in lieu of English certificate. Authorization, No. 67, to act as manager of more than one mine.*	...	.....	...	...	...	Figures included in that of Baraboni.
27	Bengal Coal Co., Ld., 5, Fairlie Place, Calcutta, or Post Box No. 117.	Banksimulla (2 mines).	Banksimulla, Asansol, E. I. R.	T. Chrystie, *1st class competency, No. 25, in lieu of English certificate. Authorization, No. 138, to act as manager of more than one mine.*	H. R. Fox, *1st class service, No. 92.*	.....	...	61	175	G. F. Scott, Chief Mining Engineer.
28		Damudapur	Damudapur, Raniganj or Ikra, E. I. R.	F. T. Marley, *1st class competency, No. 40, in lieu of English certificate.*	..	.....	...	429	298	
29		Raniganj	Egara, Raniganj, E. I. R.	B. L. Brodhurst, *1st class competency, No. 38, in lieu of English certificate.*	...	.....	...	305	190	
30	Bhagirathi Coal Co., Kalipahari P. O.	Bhutdoba	Kalipahari, Kalipahari, E. I. R.	Kshetra Nath Dey *Permit, No. 143.*	Pran Gobinda Sirkar.	.....	...	75	47	
31	Bhattacharji, Shasi Bhusan Chora P. O.	Haripur	Haripur, Toposi or Raniganj, E. I. R.	Nil Madhab Chakrabutti, *2nd class service, No. 104.*	...	.....	...	65	9	
32	Bhuskajuri Coal Co., Ld. (See column No. 7).	Bhuskajuri (2 mines)	Bhuskajuri, Asansol or Baraboni, E. I. R.	H. C. Read, *1st class service, No. 121. Authorization, No 129, to act as manager of more than one mine.*	Gregory Sam	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	246	192	E. C. Agabeg, General Manager.
33	Bilbera Coal Co., Ld. (See column No. 7).	Babisole (3 mines).	Babisole	T. Samson, *1st class competency, No. 94, in lieu of English certificate. Authorization, No. 167, to act as manager of more than one mine.*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	...	...	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
34	British India Coal Co., Ld. (See column No. 7).	Napara (3 mines)	Napara, Baraboni or Asansol, E. I. R.	L. R. Somerville, *1st class competency, No. 75, in lieu of English certificate.*	...	Williamson, Magor & Co., 4, Mangoe Lane, Calcutta, or Post Box No. 177.	...	77	100	Formerly owned by P. N. Bose.
35	Burdwan Coal Co. (G. B. and B. T. Sircar) Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Promoda Chandra Mukherji. *Permit, No. 40.*	...	.....	...	39	22	
36	Burdwan (New) Coal Co. Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Purna Chandra Bagchi, *2nd class service, No. 51.*	...	.....	...	17	10	
37	Burn & Co. The Potteries, Raniganj P. O.	Pottery (3 mines).	Raniganj, Raniganj, E. I. R.	Sharoda Prasad Ghosal, *2nd class service, No. 115. Authorization, No. 173, to act as manager of more than one mine.*	...	Burn & Co., 7, Hastings Street, Calcutta, or Post Box No. 191.	...	37	51	
38	Chatterji, Pran Kishen Chowkidanga P. O.	Jotejanaki (2 mines).	Jotejanaki, Toposi or Raniganj, E. I. R.	Karali Prasad Chatterji	...	.....	...	72	22	
39	Chelode Coal Co. (See column No. 7).	Chelode	Kuordih, Kalipahari, E. I. R.	W. Barnard, *2nd class service, No. 69, and 1st class competency, No. 26.*	...	Sircar, Barnard & Co., 2, New China Bazar Street, Calcutta, or Post Box No. 286.	...	...	...	
40	Cooverji Bhoja Kalipahari P. O.	Mosila	Mosila, Kalipahari, E. I. R.	Khimji Dhunji, *Permit, No. 7.*	...	.....	...	26	10	
41	Damra Coal Co., Ld. (See column No. 7).	Damra (Old) (9 mines).	Damra, Kalipahari, E. I. R.	Sasi Bhusan Patra, *2nd class service, No. 33. Authorization, No. 164, to act as manager of more than one mine.*	...	M. L. Laik and Banerji, 7, Swallow Lane, Calcutta.	...	90	18	
42		Kanchka (2 mines).	Ghusik, Kalipahari, E. I. R.		...	.....	...	...	...	
43		Napara	Napara, Baraboni or Asansol, E. I. R.	Gopinath Chatterji, *2nd class service, No. 12.*	...	.....	...	117	38	
44	Daw, Peary Lal 2, Dhurmahatta Street, Calcutta.	Lakshmiganj	Dobrana, Toposi or Raniganj, E. I. R.	Annada Prosad Roy.	...	.....	...	46	37	
45	Dhadka Coal Co. (Seth Gopal Dass Trikumji), 25, Pollock Street, Calcutta.	Dhadka	Dhadka, Asansol, E. I. R.	.....	...	.....	...	62	54	

46	Dutt, Hem Chandra . . . Sitarampur P. O.	Kajra . .	Kajra, Raniganj, E. I. R.	Hem Chandra Dutt, *1st class service, No. 24. Authorization, No. 80, to act as manager of more than one mine.*	...	.....	...	11	32	
47	Eastern Coal Co., Ld. . . (See column No. 7.)	Bankola . .	Bankola, Ukhra or Raniganj, E. I. R.	A. H. Ward, *1st class competency, No. 65, in lieu of English certificate.*	...	Mackinnon, Mackenzie & Co., 16, Strand Road, Calcutta, or Post Box No. 163.	...	296	136	
48		Joba or Jotemotuk	Joba, Raniganj, E. I. R.	W. Augier, *1st class service, No. 66.*	...		...	227	52	
49	Equitable Coal Co., Ld. . (See column No. 7.)	Jamuria . .	Jamuria, Jamuria, Asansol or Raniganj, E. I. R.	A. Murdoch, *1st class competency, No. 63, in lieu of English certificate.*	...	MacNeill, & Co., 2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	759	182	W. Miller, Superintendent.
50		Satpukuria . .	Satpukuria, Asansol, E. I. R. .	J. DeSouza, *2nd class competency, No. 2.*	...		...	86	11	
51	Faridpur Coal Co. . . . (Soshi Bhusan Mukherji), 6, Fakir Ch. Chuckerbutty's Lane, Beadon Square P. O., Calcutta.	Faridpur . .	Charanpur, Baraboni or Asansol, E. I. R.	Kanty Ch. Bhattacharji, *2nd class service, No. 111.*	Surendra Nath Mukherji.	Tansookroy Ramnath, 12, Mullick Street, Calcutta.	...	80	26	
52	Ghusik and Muslia Collieries, Ld. (Creet & Co., S. T.), Kalipahari P. O.	Baraboni . .	Baraboni, Baraboni or Asansol, E. I. R.	M. A. Creet. *Authorization, No. 16, to manage the mine temporarily.*	...	Martin & Co., 6 & 7, Clive Street, Calcutta, or Post Box No. 23.	...	190	99	S. T. Creet, General Manager.
53		Ghusik (3 mines).	Ghusik, Kalipahari, E. I. R.	A. T. Creet, *1st class service, No. 36. Authorization, No. 63, to act as manager of more than one mine.*	P. J. Peters and L. A. Creet.		...	295	200	
54		Muslia . .	.....	E. D. Onraiet, *1st class service, No. 20.*	...		...	...	...	
55	Ghusik Coal Co. (Hem Ch. Ghosh). Kalipahari P. O.	Ghusik . .	Ghusik, Kalipahari, E. I. R.	G. W. Ogilvie, *Permit, No. 157.*	...	.....	...	27	15	
56	G. M. Agreeable Coal Co. . . Kalipahari P. O.	Kessabganj . .	Kessabganj, Kalipahari, E. I. R.	Gosto Behary Dutt, *Permit, No. 32.*	...	.....	...	16	7	
57	Hariladih Coal Co., Ld. . . (See column No. 7).	Akhalpur . . (6 mines).	Akhalpur, Jamuria, or Raniganj, E. I. R.	R. Heron, *1st class competency, No. 69, in lieu of English certificate. Authorizations, Nos. 72 and 107, to act as manager of more than one mine.*	...	MacNeill & Co., 2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	185	100	W. Miller, Superintendent.

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
58	Imperial Coal Co., Ld. (See column No. 7.)	Madhubpur (2 mines).	Madhubpur	T. Samson, *1st class competency, No. 94, in lieu of English certificate. Authorization, No. 167, to act as manager of more than one mine.*	...	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	...	30	
59	Jagannath Coal Co. (Jagannath Marwari), Raniganj P. O.	Ragunathchak (2 mines).	Raghunathchak, Raniganj, E. I. R.	Chakar Chandra Pal, *2nd class service, No. 28. Authorization, No. 113, to act as manager of more than one mine.*	...	...	...	45	27	
60	Katras-Jharia Coal Co., Ld. (See column No. 7.)	Sibpur (4 mines).	Sibpur, Raniganj or Asansol, E. I. R.	P. S. Keelan, *1st class service, No 34. Authorization, No. 115, to act as manager of more than one mine.*	A. T. Spencer and P. Sydney.	Andrew Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...	521	132	
61	Kaviraj, Ram Lall Gaurangdi P. O.	Sultanpur	Sultanpur, Churulia, E. I. R	Ram Lal Kaviraj	...	.....	...	19	6	
62	Kenda (Central) Coal Co. (J. A. Millar), Chowkidanga P. O.	Kenda	Kenda, Toposi or Raniganj, E. I. R.	J. A. Millar, *1st class service, No. 14.*	Hosain Bux	.....		21	26	
63	Kenda (New) Coal Co., Ld. Chora P. O.	Kenda (8 mines).	Kenda, Toposi or Raniganj, E. I. R.	Kali Das Chatterji, *2nd class service, No. 65. Authorization, No. 122, to act as manager of more than one mine.*	..	....	...	25	112	S. Heslop, Superintendent.
64	Kenda (South) Coal Co. (J. C. Martin). Chowkidanga P. O.	Banskuri	Topsi or Raniganj, E. I. R.	J. C. Martin, *2nd class service, No. 64.*	...	.....	...	23	60	
65	Kuordih Coal Co., Ld. (See column No. 7.)	Kuordih (4 mines).	Kuordih, Kalipahari, E. I. R.	W. Barnard, *2nd class service, No. 69, and 1st class competency, No. 26.*	..	Sircar, Barnard & Co., 2, New China Bazar Street, Calcutta, or Post Box No. 286.	...	141	36	R. Barnard, Superintending Engineer.
66	Kuordih (East) Coal Co., Ld. (See column No. 7.)	Kuordih (East)	Kuordih, Kalipahari, E. I. R.		...		...	...	...	

67	Laik, Mukundo Lall . . 7, Swallow Lane, Calcutta.	Haripur . .	Haripur, Toposi or Raniganj, E. I. R.	Jogendra Nath Chatterji, *2nd class service, No. 50.*	...	.....	...	68	20	
68	Malia, D. & R. Raniganj P. O.	Banskuri . .	Banskuri, Raniganj, E. I. R. .	.....	...	.....	...	...	...	
69		Jamehari . .	Jamehari, Raniganj, E. I. R. .	.....	Rishi Kesh Mukherji.	.....	...	104	129	
70		Searsol . .	Searsol, Raniganj, E. I. R. .	Sita Nath Dutta, . *1st class service, No. 93.*	...	.....	...	193	73	
71	Marwari, Fulchand . . . Chowkidanga P. O.	Kenda . .	Toposi or Raniganj, E. I. R. .	.....	...	.....	...	...	...	
72	Marwari, Ganapat Ram . . Kalipahari P. O.	Kessabganj . .	Kessabganj, Kalipahari, E. I. R.	Shew Karan Marwari, *2nd class service, No. 6.*	...	.....	...	90	43	
73	Marwari, Jagannath . . Raniganj P. O.	Bunbehal . .	Bunbehal, Ukhra or Raniganj, E. I. R.	Umaprosad Mukherji, *2nd class service, No. 27.*	...	.....	...	27	14	
74		Dobrana . .	Dobrana, Toposi or Raniganj, E. I. R.		...	.....	...	.	...	
75	Marwari, Ram Bilas . . . Kalipahari P. O.	Kessabganj . .	Kessabganj, Kalipahari, E. I. R.	Ram Bilas Marwari, *2nd class service, No. 55.*	...	.....	...	22	19	
76	Meyer Coal Co. (See column No. 7.)	Jubilee . .	Kalipahari, Kalipahari, E. I. R.	Basanto Kumar Dutta, *2nd class service, No. 70. Authorization, No. 142, to act as manager of more than one mine.*	Babu Lal Tanti.	Meyer Brothers, 28, Pollock Street, Calcutta.	...	62	11	
77		Nichinta . .	Nichinta, Kalipahari, E. I. R. .		Mahabir Prosad Dass.		...	52	10	
78		Nuniapool . .	Kalipahari, Kalipahari, E.I. R.		...		...	...		
79		Nimcha . .	Nimcha, Raniganj, E. I. R. .	.....	Girindra Nath Sarcar.			34	8	
80	Minto Coal Co., Ld. (See column No. 7).	Nandi . .	Nandi, Jamuria or Raniganj, E. I. R.	C. Tweedie . . *2nd class competency, No. 14. Authorization, No. 140, to act as manager of more than one mine.*	...	Andrew Yule and Co., 7, Clive Row, Calcutta, or Post Box No. 150.	...			
81		Shekpur . .	Shekpur, Raniganj, E. I. R.		...	.....	...	80	29	
82		Sibpur . .	Sibpur, Jamuria or Raniganj, E. I. R.	.....	...	.....	...			
83	Mukherji, Baman Dass . . . Kalipahari P. O.	Ghusik (New) .	Ghusik, Kalipahari, E. I. R. .	.....	...	.....	...	32	22	
84	Mukherji, Hera Lal . . . 15-4, Wellington Street, Calcutta.	Kenda . .	Kenda, Toposi or Raniganj, E.I.R.	Hrishi Kesh Ghosh .	...	.....	...	...	7	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

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								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*							
85	Mukherji, Romesh Chandra . . Kalipahari P. O.	Ghusik . .	Ghusik, Kalipahari, E. I. R.	Radha Krishna Chatterji, *2nd class service, No. 113.*	...	.....	...	35	21	
86	Mukherji, Soshi Bhusan . . 6, Fakir Chand Chuckerbutty's Lane, Beadon Square P. O., Calcutta.	Nandi (New)	Nandi, Jamuria or Raniganj, E. I. R.	Kanti Chandra Bhattacharji, *2nd class service, No. 111.*	...	Tansook Roy Ramnath, 12, Mullick Street, Calcutta.	...	...	...	
87	Mundulpur Coal Co., Ld. . . (See column No. 7.)	Mundulpur .	Mundulpur . . .	A. Gillespie, *1st class competency, No. 98, in lieu of English certificate.*	..	MacNeill & Co., 1-2, Clive Ghat Street, Calcutta, or Post Box No. 15.	...	...	..	W. Miller, Agent.
88	Nandi Coal Association . . (Siba Prosad and others) Nandi P. O.	Nandi . .	Nandi, Jamuria or Raniganj, E. I. R.	Suchand Ghosh, *2nd class service, No 44.*	Pasupati Chatterji & Monindro Kinkor Nyah.	.....	...	113	43	
89	Nandi, Maharaja Manindra Chandra. Cossimbazar P. O., Murshidabad.	Napara . .	Napara, Baraboni or Asansol, E. I. R.	Kali Prasanna Punja, *2nd class service, No. 102.*	...	.....	...	110	82	Monmotho Nath Roy, General Manager.
90		Vanora Khas (9 mines).	Vanora, Baraboni or Asansol E. I. R.	Rajoni Prokash Chakrabarty, *1st class service, No. 112. Authorization, No. 81, to act as manager of more than one mine.*	...	.....	...	104	88	
91	Niga Valley Coal Co. . . . (Soshi Bhuson Mukherji.) 6, Fakir Chand Chuckerbutty's Lane, Beadon Square P. O., Calcutta.	Niga Valley (5 mines).	Kalipahari, Kalipahari, E. I. R.	Jasoda Dulal Ghosh, *2nd class service, No. 108. Authorization, No. 82, to act as manager of more than one mine.*	Beni Madhab Mukherji.	Tansook Roy Ramnath, 12, Mullick Street, Calcutta.	...	35	28	
92	Nodia Coal Co. (Abhoy Kumar Rai Chowdhuri) Ukhra P. O.	Nodia . .	Nodia, Ukhra or Raniganj, E. I. R.	Bepin Behary Sircar, *2nd class service, No. 78.*	...	.....	...	14	...	
93	Ondal Coal Co., Ld. . . See Column No. 7.)	Bowlah .	Bowlah	W. Lawrie, *1st class competency, No. 78, in lieu of English certificate. Authorization, No. 123, to act as manager of more than one mine.*	...	F. W. Heilgers & Co., 136, Canning Street, Calcutta, or Post Box No. 185.	...	251	139	J. Macintosh, General Manager.
94		Chora . .	Chora, Toposi or Raniganj, E. I. R.							

95		Sunpur	Sunpur, Toposi or Raniganj, E. I. R.	C. C. Augier, *1st class service, No. 46.*	...		...	27	60	
96	Phularitand Coal Co., Ld. (See column No. 7.)	Banali	Banali	Lal Chand Mukherji, *1st class service, No. 123.*	Nani Lal Goswami.	N. C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	83	34	R. Barnard, Superintending Engineer.
97		Damra (New)	Damra, Kalipahari, E. I. R.	Kanderpa Mohan Mozumdar, *2nd class competency, No. 21.*			...	51	27	
98	Poniati Coal Concern (U. C. Roy & Co.—A. C. Ghosh). Charanpur P. O.	Faridpur	Domohani, Asansol, E. I. R.	Umesh Chandra Rai, *2nd class service, No. 54.*	Jagad Bhusan Rai Choudhuri.	Laik & Banerji, 7, Swallow Lane, Calcutta.	...	104	61	Formerly owned by Apcar & Co.
99	Raniganj Coal Association, Ld. (See column No. 7).	Toposi (2 mines)	Toposi, Toposi or Raniganj, E. I. R.	Thos. Thomson, *1st class service, No. 57. Authorization, No. 156, to act as manager of more than one mine.*	...	Kilburn & Co., 4, Fairlie Place, Calcutta, or Post Box No. 61.	...	119	96	
100	Reliance Coal Co., Ld. (See column No. 7).	Charanpur (6 mines.)	Domohani, Asansol, E. I. R.	P. Scott, *1st class service, No. 73. Authorization, No. 48, to act as manager of more than one mine.*	R. G. Rooke, *2nd class competency, Nos. 6 and 27*	Bird & Co., 101-1, Clive Street, Calcutta, or Post Box No. 46.	...	355	165	
101	Sadhu, Ram Chandra Charanpur P. O.	Palasthal	Jamtara, Jamtara, E. I. R.	Nritya Gopal Sadhu	Tin Kari Rai	.....	...	12	6	
102	Sahana & Co. (R. K. Sahana) Chowkidanga P. O.	Sonachora	Sonachora, Toposi or Raniganj, E. I. R.	Nishanath Rai Chowdhuri. *Permit, No. 83.*	...	.....	...	35	36	
103	Samla and Kendra Syndicate (See column No. 7).	Kendra	Kendra	C. C. Augier, *1st class service, No. 46. Authorization, No. 197, to act as manager of more than one mine.*	...	Martin & Co., 6 & 7, Clive Street, Calcutta, or Post Box No. 23.	...	...	...	
104		Samla	Samla				...	...	...	
105	Sathpukuria and Asansol Collieries, Ld. (See column 7.)	Aradanga or Banbistopur.	Banbistopur, Asansol, E. I. R.	H. T. C., Martin, *1st class service, No. 5.*	...	Martin & Co., 6 and 7, Clive Street, Calcutta, or Post Box No. 23.	...	75	12	
106	Sibpur Coal Co., Ld. (See column No. 7.)	Pretoria	Sibpur, Jamuria, Asansol or Raniganj, E. I. R.	P. S. Keelan, *1st class service, No. 34. Authorization, No. 115, to act as manager of more than one mine.*	...	Andrew Yule & Co., 7, Clive Row, Calcutta, or Post Box No. 150.		333	36	
107	Singaran Coal Syndicate, Ld. (See column No. 7.)	Jotejanaki (3 mines.)	Jotejanaki, Toposi, E. I. R.	T. C. Piggford, *1st class competency, No. 67, in lieu of English certificate. Authorization, No. 125, to act as manager of more than one mine.*	...	MacLeod & Co., 31, Dalhousie Square, Calcutta, or Post Box No. 78.	...	84	54	
108	Singh & Co., K. D. Kalipahari P. O.	Kalipahari	Kalipahari, Kalipahari, E. I. R.	Ram Din Lalla *Permit, No. 147.*	...	.....	...	50	30	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*concld.*							
109	Singh, Naba Rong . . . Kalipahari P. O.	Bhutdoba . .	Bhutdoba, Kalipahari, E. I. R.	Esan Ch. Sircar . . *Permit, No. 146.*	Bhovesh Chandra Ghosal.	.....	...	30	20	
110	Singh, Ram Narayan . . . Asansol P. O.	Banbistopur .	Banbistopur, Asansol, E. I. R.	Baikunto Nath Chowdhuri.	...	.....	...	48	9	
111	Sircar, Banwari Lal . . . Chowkidanga P. O.	Dobrana . .	Dobrana, Toposi or Raniganj, E. I. R.	Banwari Lall Sircar . .	...	.....	...	...	...	
112	Sudamdih Coal Co., Ld. . . (See column No. 7).	Sarthakpur . .	Sarthakpur, Toposi or Raniganj, E. I. R.	Devendra Narain Roy, *2nd class service, No. 48.*	..	N.C. Sircar & Sons, 5, Clive Ghat Street, Calcutta, or Post Box No. 285.	...	42	57	
113	Tareni Coal Co. . . . . (S. C. Bhatta.) Chora P. O.	Haripur . .	Haripur, Toposi or Raniganj, E. I R.	Nilmadab Chuckerbutty, *2nd class service, No. 104.*	...	.....	...	65	9	
114	Toposi (Old) Coal Co. . . . Chowkidanga P. O.	Purandip . .	Parandip, Toposi or Raniganj, E. I. R.	Fanindra Nath Ghosh, *2nd class service, No. 153.*	...	.....	...	79	36	
			Bengal—Giridih Coalfield (No. 2 Inspection Circle).							
1	Bayra Coal Association . . (Myers, E.) . . . Giridih P. O. . . .	Lakharia or Bayr	Lakharia, Giridih, E. I. R.	E. Myers, *1st class service, No. 27. Authorization, No. 195, to act as manager of more than one mine.*	...	.....	...	61	42	
2		Mohalichua .	Mohalichua, Giridih, E. I. R.		...	.....	...	68	33	
3		Sikdardih . .	Sikdardih, Giridih, E. I. R.		...	.....	...	..	...	
4	Bengal Coal Co., Ld. . . . 5, Fairlie Place, Calcutta, or Post Box No. 117.	Kuldiha . . (4 mines).	Kuldiha, Giridih, E. I. R.	G. N. A. Pitt, *1st class competency, No. 77, in lieu of English certificate. Authorization, No. 149, to act as manager of more than one mine.*	...	.....	...	558	432	G. F. Scott, Chief Mining Engineer.

5	Budheadih Coal Co. (Sundermull.) Gadi Shrirampur P.O., Giridih.	Budheadih (2 mines.)	Budheadih, Giridih, E. I. R.	Sarbananda Lall, *2nd class service, No. 84. Authorization, No. 133, to act as manager of more than one mine.*	...	.....	...	123	23	
6	East Indian Railway Co., 105, Clive Street, Calcutta, or Post Box No. 225.	Kurhurbari	Kurhurbari, Giridih, E. I. R.	Thos. Adamson, *1st class competency, No. 14, in lieu of English certificate.*	A. Wright, *1st class service, No. 16.*	.....	14th June 1905	3,678	2,471	T. H. Ward, Superintendent.
7		Serampur	Serampur, Giridih, E. I. R.	G. C. Lathbury, *1st class competency, No. 13, in lieu of English certificate.*	G. C. Leach, *1st class competency, No. 16, in lieu of English certificate.*					
8	Tah & Co., Rakhal Das	Kabribad (3 mines.)	Kabribad, Giridih, E. I. R.	Sarat Chander Tah, *2nd class service, No. 128. Authorization, No. 66, to act as manager of more than one mine.*	...	.....	...	54	23	

Bengal—Rajmahal Coalfield (No. 3 Inspection Circle).

1	De, Girish Chandra	Domanpur	Domanpur, Rampurhat, E. I. R.	.....	...	.....	...	...	...	
2		Sarsabad	Sarsabad, Rampurhat, E. I. R.	.....	...	.....	...	...	...	
3	De, Ramani Kanto Rasikpur, Dumka P. O.	Domanpur Balki	Balki, Rampurhat, E. I. R.	Ramani Kanto De	...	.....	...	5	...	
4		Ghatchora	Asanbani, Rampurhat, E. I. R.		...	.....	...	2	...	
5	De, Soshi Bhusan Rasikpur Dumka P. O.	Bargo	Bargo, Rampurhat, E. I. R.	Soshi Bhusan De	...	.....	...	16	...	

Bengal—Daltonganj Coalfield (No. 1 Inspection Circle).

1	Bengal Coal Co., Ld. 5, Fairlie Place, Calcutta, or Post Box No. 117.	Rajhara (5 mines.)	Rajhara, Daltonganj, E. I. R.	J. N. A. Devine, *1st class service, No. 71. Authorization, No. 170, to act as manager of more than one mine.*	H. G. Piggford	.....	...	364	234	G. F. Scott, Chief Mining Engineer.
2	Redford, W. T. Dehri-on-Sone.	Singra (3 mines.)	Singra		...	.....	...	70	35	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*contd.*

Serial number.	Name of Owner or Company arranged in alphabetical order, and postal address.	Name of Mine and number of separate Mines as defined by Rule 27.	Situation of Mine.	Name of Manager and No. and Class of his Certificate, Authorization or Permit.	Name of Assistant Manager and No. and Class of his Certificate.	Name and address of Managing Agent.	Date of establishment of Special Rules.	Persons employed		Remarks.
								Below ground.	Above ground.	
			Central Provinces—(No. 3 Inspection Circle).							
1	Coverji Bhoja . . . . 19, Pollock Street, Calcutta.	Jattachhapper .	Jattachhapper, Chhindwara	Ananta Ram Hiralal, *Permit, No. 123.*	...	.....	...	...	...	
2	Government of India . . . Nagpur, C P.	Ballarpur . .	Ballarpur, Warora, G. I. P. .	R. Wordsworth, *1st class competency, No. 22, in lieu of English certificate.*	T. P. Yeoman, *1st class competency, No. 19, in lieu of English certificate.*	.....	...	220	109	Chief Engineer, Central Provinces, Agent.
3	Great Indian Peninsula Railway . Bombay P. O.	Mohpani . .	Mohpani, Gadarwada, G. I. P.	F. L. G. Simpson, *1st class competency, No. 32, in lieu of English certificate.*	O. T. Edwards	.....	...	553	426	
4	Pench Valley Coal Co., Ld. (See column No. 7).	Barkui . .	Barkui, Chhindwara, B.N.R.	R. Fenwick Jr., *1st class competency, No. 91, in lieu of English certificate. Authorization, No. 153, to act as manager of more than one mine.*	Joseph Rylance, *2nd class competency, No. 1, in lieu of English certificate.*	Shaw, Wallace & Co., 20, Strand Road, Calcutta. Post Box, No. 70.	...	85	51	F. I. L. Ditmas, General Manager.
5		Buteria . .	Buteria, Chhindwara, P. N. R.				...	5	5	
6		Chandametta .	Chandametta, Chhindwara, B. N. R.				...	295	70	
			British Baluchistan (No. 2 Inspection Circle).							
1	Alibhoy Bros. . . . . Quetta P. O.	Sor Range . .	Sor Range, Quetta, N. W. R.	Alibhoy . . .	...	.....	...	3	2	
2	Asgharali & Co., Abdulla . Loralai P. O.	Davispur . .	Thadri, Loralai . . .	Jawandamull . .	...	.....	...	9	3	Bhogsingh Duki, Agent
3	Essaji & Sons . . . . Quetta, P. O.	Sor Range . .	Sor Range, Quetta, N. W. R.	...	...	Ismail	...	6	1	
4	Ferozshah, Shiawakshaw Quetta P. O.	Digari . .	Digari, Quetta, N. W. R.	...	...	.....	...	...	...	
5		Sor Range . .	Sor Range, Quetta, N. W. R. .	Saleh . . .	...	.....	...	...	...	
6	Hossein Ali & Co. . . . Quetta P. O.	Sor Range . .	Sor Range, Quetta, N. W. R. .	Hossein Ali . .	...	.....	...	...	...	

7	Khan, Bahawal Quetta P. O.	Bhor	Kalat dist.	...	Abdul Khan	.....	...	3	...	
8		Digari	Digari, Quetta, N. W. R.	...		.....	...	5	1	
9	North-Western Railway Lahore P. O.	Khost	Khost, Khost, N. W. R.	Arthur Mort, *1st class competency, No. 48, in lieu of English certificate.*	W. C. Clements	.....	...	443	260	
10	Patel, K. B. Burjorji D. Quetta P. O.	Mach	Mach, Bolan, N. W. R.	B. D. Patel	...	Bishan Dass	...	96	16	
11		Sor Range	Sor Range, Quetta, N. W. R.	...	...	Hari Chand, Sor Range near Hanna.	...	62	10	
12	Sorabji & Co. Quetta P. O.	Digari	Digari, Quetta, N. W. R.	Mano	...	Gillaram	...	25	6	
13		Leze	Digari, Quetta, N. W. R.	...	...		...	12	8	
14		Sor Range	Sor Range, Quetta, N. W. R.	...	...	.....	...	...	...	
	Burma (No. 1 Inspection Circle).									
	Burma Mines Development and Agency, Ld. West Moat Road, Mandalay P. O.	Thitchauk	Kalewa, Upper Chindwin	E. Kirkpatrick	...	.....	...	...	...	
	Eastern Bengal and Assam (No. 1 Inspection Circle).									
1	Assam Railways and Trading Co., Ld. Margherita, P. O.	Ledo Valley (East)	Makum, Margherita, D. S. R.	G. Bull, *1st class service, No. 83. Authorization, No. 147, to act as manager of more than one mine.*	...	.....	...	374	153	G. E. Harris, Agent and General Manager.
2		Ledo Valley (West)			...	.....	...			
3		Ledo Valley (Upper).			...	.....	...	169	100	
4		Tirap			...	.....	...	14	2	
5		Namdang		T. Rushton, *1st class service, No. 84. Authorization, No. 146, to act as manager of more than one mine.*	...	.....	...	284	169	
6		Tikak			...	.....	...	273	178	
7	Maolong Coal Co.	Maolong	Ishamati, Sylhet	...	...	.....	...	...	...	

List of Coal Mines worked under the Indian Mines Act, 1901, in British India—*concld.*

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								Below ground.	Above ground.	
			Panjab—(No. 2 Inspection Circle).							
1	Chand, Lakhmi, Ara P. O.	Chhaja	Ara, Jhelum	Fakir Chand, *Permit, No. 159.*	...	.....	...	14	6	
2	Dass, Bhagwan and Ram, Kalabagh P. O.	Katha	Katha, Dandot, N. W. R.	Radha Kishan	...	Radha Kishan	...	...	...	
3		Samewala								
4		Tajuwala	Tajuwala	...	...	.....	...	18	20	
5		Thakkar Kot								
6	Dass, Ganesh, Gujrat, P. O.	Dher	Manihala, Jhelum	Dost Ali Shah, *Permit, No. 89.*	..	.....	...	...	...	
7	Dass, Ishan, Pind Dadan Khan, P. O.	Rodianwali	Sidhandi, Jhelum	Golam Ali	...	.....	...	16	6	
8	Dass, Thakur	Gamrala	—Jhelum	...	...	.....	...	12	...	
9	Lal & Co. Kushan	Kotianwali	—Jhelum	Mahomed Husain	...	.....	...	25	1	
10	Nath, Bhola, Dalwal P. O.	Chatterwal	Dalwal, Jhelum		...	.....	...	11	3	
11		Wahgroowali	—Jhelum	Bhola Nath, *Permit, No. 90.*	...	.....	...	7	...	
12	North-Western Railway Co., Lahore P. O.	Dandot	Dandot, Khewra, N. W. R.	D. Thomson, *1st class competency, No. 50, in lieu of English certificate.*	...	.....	...	690	388	
13	Panjab Coal Co. (Lakhmi and Deva Singh) Abbottabad P. O.	Chiti Dand	Mukrach, *vid* Golpur, N.W. R.	Kirpa Ram, *2nd class service, No. 32.*	...	.....	...	183	209	E. L. Hope, Superintendent.
14	Ram & Sons, R. S. Rocha, Abbottabad P. O.	Chota Tajuwala	Tajuwala	Uttam Singh	...	.....	...	15	6	
15		Narianwala	Narianwala	Faquir Chand	...	.....	...	15	3	
16	Singh & Co., R.B. Anup, Lahore P. O.	Makarwal	Mianwalli	S. K. Taylor	Khudabux	Lukshman Singh	...	80	36	

APPENDIX V—*contd.*

Index to List of Coal Mines worked under the Indian Mines Act, 1901, in British India.

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Jharia Coalfield (No. 1 Inspection Circle).		
Alkusa	Kanga & Co.	105
Angarpatra	Angarpatra Colliery Co.	7
	Bose, J. N.	38
	Srimani, J. N.	185
	Trigunait Bros. Coal Co.	200
	Union Coal Co., Ld.	205
Bagdiggi	Bagdiggi-Kujama Collieries, Ld.	12
	Smith, C. J.	182
Bahiardih	Mahato, Baidya Nath	132
Bamongarh	Bose, Satish Chandra	41
Bansdeopur	Bansdeopur Coal Co.	18
Bansjora	Bansjora Coal Co.	19
Banstakola	New Beerbhum Coal Co., Ld.	25
Barwabera (New)	Barwabera Coal Co.	24
Belanjabad	Lall, Daroga	127
Benahir	Standard Coal Co., Ld.	186
Bhaga	Jharia Colliery Co., Ld.	96
Bhagaband	Borrea Coal Co., Ld.	37
Bhalgora	Bhalgora Coal Co., Ld.	32
Bhatdih	Bengal Bhatdih Coal Co., Ld.	26
Bhowra	East Indian Coal Co., Ld.	71
Bhuggutdih	Bengal Nagpur Coal Co., Ld.	31
Bhulanbarari	Bhulanbarari Coal Co., Ld.	35
	East Indian Coal Co., Ld.	67
Bhutgoria	Aldih Coal Co., Ld.	6
Bodora	Vithalram Coal Co.	207
Borora	Chatterji, Singh & Co.	52
Brahmanbarari	East Indian Coal Co., Ld.	67
Braroabara	Jharia-Katras Coal Co.	98
Budruchak	Budruchak Coal Mining Co., Ld.	43
Bulliari	Bulliari Coal Co.	44
	Bulliari Coal Concern	45
	Chuni Lal Coal Co.	54
	East Indian Coal Co., Ld.	68
Burragarh	Burragarh Coal Co.	46
	Hariladih Coal Co., Ld.	87
Busserya	Busserya Coal Co. Ld.	47
Chandore	Banerji & Co., Harish Chandra	15
	Chandore Coal Co. (P. K. Roy and others)	49
	National Coal Co. (R. K. Chattoraj)	142

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*		
Chandore	Pain, B. L.	146
	Trigunait, Brojo Bhusan	198
	Trigunait, Mukteswar	201
	Trigunait, Sudarsan	203
Chandrabad	Agarwala, Ramjus	4
	Khandesh, Berar and Gujrat Coal Concern (Rastamji Ardesir Macadam)	114
Chasnalla	Lodna Colliery Co., Ld.	128
Choitodih	Lutchipur Coal Co., Ld.	131
Dharmuband	Ghosh, Akshaya Kumar	79
Dheriajoba	Dheriajoba Coal Co.	61
	Jharia Coal Syndicate, Ld.	95
Dobari	Bagchi, R. N.	11
	Dobari Coal Co. (S. B. Banerji and R. K. Sahana)	62
	Kor, Sri Hari	121
Durgapur	Premji and Devshi Hamir	155
Ekra Khas	Nandi, Maharaja Manindra Chandra	140
Emampahari	Jharia Coal Syndicate	94
Ena	North-West Coal Co., Ld.	143
Futtehpur	Agarwala, Ramjus	5
	Dosa, Ganji and Khunji	64
	Premji and Devshi Hamir	156
Ganhudih	Dobari Coal Co. (S. B. Banerji and R. K. Sahana)	63
Gansadih	Roy, P. C.	166
Ganzlatan	New Manbhum Coal Co., Ld.	133
Gararia	Das, R. B.	60
	Howji, Tribhuban Dass	90
	Roy, Moheswar and Srikontho	165
	Sanker, T. R.	169
Gobindpur	Gobindpur Coal Co., Ld.	80
	South Gobindpur Collieries, Ld.	81
Godhur	Agarwala, Lachmi Narayan	3
	Raha and Son, Sasi Bhusan	157
Goluckdih	East Jharia Coal Co., Ld.	97
Gopalichak	Gopalichak Coal Co., Ld.	82
Gopalichak (West)		83
Hariladih	Equitable Coal Co., Ld.	75
	Standard Coal Co., Ld.	187
Huntodih	Huntodih Coal Co., Ld.	91
Jairamdih	Gorain, N. L. and others	84
Jamadoba	Indian Collieries Syndicate, Ld.	92
Jharia (East)	East Jharia Coal Co., Ld.	97
Jharia Khas	Khora Ramji Kutchi	119
	Standard Coal Co., Ld.	188

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*		
Jinagora	Chakrabarty, Krishnajiban	43
	East Barari Coal Co. (Tricumji Jiban Dass)	22
	G. P. C. & Co. (Gova Petha)	86
Jogta	Agabeg Brothers	1
Joyrampur	B. R. & N. Coal Co.	42
	Joyrampur Coal Co.	101
	Joyrampur Coal Concern (J. K. Mukherji)	102
	Khengarji Triku & Co.	117
	Khimji Moorji & Co.	118
	R. M. R. Coal Concern	163
Joyrampur (Lower)	Ghela Panchan & Co.	77
Kandra (Upper)	South Jharia Coal Co.	99
Kankani	Eastern Coal Co., Ld.	72
Kantapahari	Angarpatra Colliery Co.	8
	Bose, J. N.	39
	South Angarpatra Coal Co. (B. K. Banerji & Son)	9
	Srimani, J. N.	185
	Trigunait Mukteswar	202
Kantapahari (West)	Central Bengal Coal Co., Ld.	27
Katras	Nowagarh Coal Co., Ld.	144
Kendwadih	C. M. & Co. (Chimanlal Mangaldas & Keshan Lal Parekh)	56
	East Indian Coal Co., Ld.	69
	Gorain, Ram Ranu	85
	Hariladih Coal Co., Ld.	88
	Kendwadih Coal Co. (Gajadhar Marwari and others)	108
Kesalpur	Bose, J. N.	40
	Koondoo, Sunda Charan	120
Kesalpur (Imperial)	Singh, Bir	175
Kesalpur (New)	Banerji, Bepin Behari	16
Kessurgurah	Kessurgurah Coal Co.	109
Khaira	East Indian Coal Co., Ld.	68
	Khaira Coal Syndicate, Ld.	110
Khalsa	Singh & Co., Atma	174
Khas Jharia	Agarwala, Jagannath Ramjus	2
	Khas Jharia Colliery Co.	116
Khas Paredih	Ghosal, Chatterji & Co.	78
Kiska	Kanga & Co.	106
Koradih	C. M. & Co. (Chimanlal Mangaldas and Keshan Lal Parekh)	57
Kujama	Bagdiggi-Kujama Collieries, Ld.	13
	Das, L. H.	58
	Khan Brothers	112
	Nanji, Khanji and Sanji	141
	North Kujama Coal Co.	122

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*contd.*		
Kujama (South)	Bagdiggi-Kujama Collieries, Ld.	14
Kurkend	Central Kurkend Coal Co., Ld.	123
	Khaira Coal Syndicate, Ld.	111
	Kurkend Coal Co. (P. C. Roy and others)	124
	Motiram Coal Co.	135
	Selected Coal Co. (Kalianji Shamji)	171
	Sircar, B. B.	181
	Sitamdih Coal Co., Ld.	190
Kurkend (East)	Marine Coal Co., Ld.	134
Kustore	Raniganj Coal Association, Ld.	159, 160 & 161
Kusunda	Kusunda and Nayadi Collieries, Ld.	125
	Patel & Co.	152
	Roy, J. K.	164
Lakorka	Lakorka Coal Co., Ld.	126
Lodna	Lodna Colliery Co., Ld.	121
	North Barakar Coal Co.	21
Loyabad	Barakar Coal Co., Ld.	20
Madhuband	Jumoni Coal Co., Ld.	103
	Lodna Colliery Co., Ld.	130
Mandra	Singh, Jit Narayan and Mit Narayan	177
Mandra Khas	Singh, Gour Mohan	176
Mucheridih	Mucheridih Coal Syndicate	136
Mudidih	Reliance Coal Co., Ld.	162
Murulidih	Bengal Coal Co., Ld.	28
Muttigurra	Muttigurra Coal Co., Ld.	139
Nayadi	Kusunda and Nayadi Collieries, Ld.	125
Nichitpur	Parasea Collieries, Ld.	150
Noonoodih	Bengal Iron and Steel Co., Ld.	30
Nudkhurki	Nudkhurki Coal Co.	145
Nudkhurki (East)	Auckland Coal Co., Ld.	10
Pandakanali	Pandakanali Coal Co., Ld.	147
Pandedih	Bhattacharji, U. C.	34
	Choudhuri, Satya Taran	53
	Chuttu Lal Kutchi	55
	Jharia Coal Association (S. K. Mukherji)	93
	Kabiraj, R. C.	104
	Katras Oriental Coal Syndicate	107
	Mukherji & Co., S. K.	138
	Pandedih Coal Syndicate (Bajrangbali Singh & others)	148
	Singh, Jorabar	178
	Trigunait, Bhubaneswar	197
	Trigunait, Sudarsan	204

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Jharia Coalfield (No. 1 Inspection Circle)—*concld.*		
Pandeybera	Das, L. H.	59
	Pandeybera Colliery Co.	149
Parbad	East Barari Coal Co. (Tricumji Jiban Dass)	23
Parelgaria	Parelgaria Coal Co.	151
Phularibad	Khas Jharia Coal Co.	115
Phularitand	Phularitand Coal Co., Ld.	153
Pinalgoria	Dumra Coal Co.	65
	Ghansham Das Coal Co.	76
	Vurma Coal Co.	208
Pipratand	Pipratand Coal Co., Ld.	154
Pootki	Eastern Coal Co., Ld.	73
Puddugora	Bengal Coal Co., Ld.	29
Ramgarh	John & Arratoon	100
Ramkanali	Biswas, P. K.	36
	Chandra, Girish Chandra	50
	Dutt, B. L.	66
	Hockly, W. A.	89
	Roy, P. C.	167
	Trigunait, Brojo Bhusan	199
Ranidih	Ranidih Coal Co. (S. B. Chatterji)	158
Sendra	Sendra Coal Co., Ld.	172
Sijua	Sijua Coal Co., Ld.	173
Simlabahal	Bhalgora Coal Co., Ld.	33
Sinidih	Sinidih Coal Co., Ld.	179
	Sinidih Coal Concern	180
Sowardih	Sowardih Coal Co. (N. L. Gorain & others)	183
Sudamdih	Empire Coal Co., Ld.	74
	Sudamdih Coal Co., Ld.	189
Sudriadih	Sudriadih Coal Co., Ld.	191
Surataur	Roy, P. C.	168
	Seal, K. B.	170
Surataur (New)	Banerji's Coal Concern, J. L.	17
Sutikdih	East Indian Coal Co., Ld.	70
Tandabari	Tandabari Coal Syndicate	192
Tentulia	Tentulia Colliery Co.	193
Tettulia	Chandra, Haresmal Ram	51
	Mukherji & Co., K. L.	137
Tetturia	New Tetturia Coal Co., Ld.	194
	West Tetturia Collieries, Ld.	195
Titulmuri	Titulmuri Coal Co., Ld.	196
Tundu	Khan, Rahim Feroz	113
Verakotah	Verakotah Syndicate, Ld.	206
Western India	Western India Coal Trading Co.	209

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj Coalfield (No. 2 Inspection Circle).		
Agoa	East Indian Coal Co., Ld.	53
Aldih	Aldih Coal Co., Ld.	5
Alipur	Barakar Coal Co., Ld.	12
Badjna	Martin, Thomas	72
Bamundiha	Damuda Coal Co., Ld.	45
	Dutt, Prasanno Coomar	52
	Shampur Coal Co., Ld.	93
Bandarchooa	Friends Coal Co. (I. B. Mukherji & J. Roy)	57
Begunia	Dutt Kabra Coal Co.	50
	Gorain, Nanda Lall & others	62
	Nandi, Maharaja Manindra Chandra	79
Begunia Khas	Nandi, Maharaja Manindra Chandra	80
Bejdih	MacNeill & Co.	70
Belrui	New Beerbhum Coal Co., Ld.	16
Binadikatta	Sircar, Bidhu Bhusun	98
Birsingpur	Annapurna Coal Co. (R. B. Maji and L. N. Marwari)	6
	Birsingpur Coal Co. (A. C. Banerji)	32
Bonjamari	Bonjamari Coal Co.	33
Borachak	Mukherji, Umesh Chandra	78
Borrea	New Beerbhum Coal Co., Ld.	17
Brindabonpur	Brindabonpur Coal Co. (H. Goswamy and K. Marwari)	35
Burra Dhemo	Damuda Coal Co., Ld.	46
	J. N. Coal Co. (P. Raghunundun & Bros.)	64
Chanch	New Beerbhum Coal Co., Ld.	18
Charnock	Charnock Collieries, Ld.	37
Chinchuria	Baraboni Coal Concern, Ld.	8
Chota Dhemo	Chatterji, Ram Bandhu	39
	Chota Dhemo Coal Co.	43
	Mukherji, Baman Das	76
Chowrasi	Equitable Coal Co., Ld.	54
Dhadkadi	Mukherji, Tinkari	77
Dhundabad	New Manbhum Coal Co., Ld.	71
Dishargarh	Equitable Coal Co., Ld.	55
Dumarkunda	New Beerbhum Coal Co., Ld.	19
Egarcoor	Ahmed Yusuf	4
	Bhattacharji & Co., U. C.	30
	Bhattacharji, Jagadishwar and others	31
	Burn & Co., Ld.	36
	Chhaganlal Nagar	41
	Dutt Kabra Coal Co.	51
	New Chirkunda Coal Co. (J. K. Marwari & others)	42
	Suitable Coal Co. (C. L. Nagar)	102
Fatka or Pandedih	Fatka Coal Co. (M. L. Laik and others)	56

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj Coalfield (No. 2 Inspection Circle)—*contd.*		
Gangutia	Bengal Nagpur Coal Co., Ld.	28
Garphalbari	Barakar Brick and Tile Syndicate	11
Gopalpur	Damuda Coal Co., Ld.	47
Hatnol	Laik, M. L.	66
	New Beerbhum Coal Co., Ld.	20
Jograd	Barakar Coal Syndicate	14
Kalimati	Lalla, Luchman Prosad	67
	Roy, Bonowari Lal	87
	Roy, Rohini Kumar	89
Kapasara	Abdul Karim & Brothers	1, 2
	Adam Joosah & Co.	3
	Bengal Oriental Coal Co.	29
	Jafar Yusuf	63
	Kalyaneswari Coal Co.	65
Kendwa	Bengal Iron and Steel Co., Ld.	26
Ketherdih	Ghose, Kunja Behari	60
Khoirabad	Ganguly, Sircar, Roy & Co.	59
Khudia	Chatterji, Shashi Bhusan	40
Khudka	Sircar and Sons, N. C.	97
Kuwardubi	Barakar Coal Co., Ld.	13
Kusumkanali	Royal Bengal Coal Co.	90
Laikdih	New Beerbhum Coal Co., Ld.	21
Lutchipur	Damuda Coal Co., Ld.	48
	Lutchipur Coal Co., Ld.	68
Mahanpur	Misra, Shama Charan	74
Mouthdih	Chatterji Colliery Co. (A. C. Chatterji)	38
Mugma	Bengal Imperial Coal Co.	25
	Dutt, Jadab Chandra	49
	Mugma Coal Association (H. M. Banerji)	75
	West Barakar Coal Co.	15
Narsamuda	Sitarampur Coal Co., Ld.	99
Nodiha	Nodiha Coal Co., Ld.	81
Nuni	Baraboni Coal Concern, Ld.	9
	Damra Coal Co., Ld.	44
Pahargora	Misra, Mangobinda and Roy, Rama Nath	78
Palashdiha	Roy, Jugal Kishore	88
Palasia	Ghose, Kunja Behari	61
Panchgatchia	Lutchipur Coal Co., Ld.	69
Pandedih or Fatka	Fatka Coal Co. (M. L. Laik and others)	55
Patlabari	Patlabari Coal Syndicate (Mulji Jetha and Chuni Lal)	86
Raghunathbatty	Sudihi Coal Co., Ld.	100
Rajpura	Parekh, Kasu Lal	82
	Patel, Hati Bhai	84
	Patel, Lallu Bhai	85

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj (No. 2 Inspection Circle)—*concld.*		
Ramnagar	Bengal Iron and Steel Co., Ld.	27
Sabanpur	Banerji, Bidhu Sekhar	7
Salanpur	Borrea Coal Co., Ld.	34
Saltore	Saltore Coal Co., Ld.	91
Sanctoria	Bengal Coal Co., Ld.	22
Sangamahal	Seal, Aghore Nath	92
	Shungamahal Collieries, Ld.	96
Shampur	Shampur Coal Co., Ld.	94
Sindri	Parekh, Keshob Lall	83
Sitalpur	Bengal Coal Co., Ld.	23
Sodepur		24
Sudih	Baraboni Coal Concern	10
Sudihi	Ganguly, Janendra Nath	58
	Sudihi Coal Co., Ld.	101
Sundarchak	Shampur Coal Co., Ld.	95
Bengal—Raniganj Coalfield (No. 3 Inspection Circle).		
Akhalpur	Hariladih Coal Co., Ld.	57
Aradanga or Banbistopur	Sathpukuria and Asansol Collieries, Ld.	105
Babisole	Bilbera Coal Co., Ld.	33
Banali	Phularitand Coal Co., Ld.	96
Banbistopur or Aradanga	Sathpukuria and Asansol Collieries, Ld.	105
Banbistopur	Singh, Ram Narayan	110
Bankola	Eastern Coal Co., Ld.	47
Banksimulla	Bengal Coal Co., Ld.	27
Banskuri	Malia, D. and R.	68
	South Kenda Coal Co. (J. C. Martin)	64
Baraboni	Baraboni Coal Association	13
	Baraboni Coal Concern, Ld.	14
	Ghusik and Muslia Collieries, Ld.	52
	New Beerbhum Coal Co., Ld.	21
Baraboni (New)	New Baraboni Coal Co. (K. B. Pal Chowdhuri and others)	17
Baraboni (South)	South Baraboni Coal Co. (K. B. Pal Chowdhuri)	18
Basantipur	Basanti Oakdene Coal Co.	22
Bhuskajuri	Bhuskajuri Coal Co., Ld.	32
Bhutdoba	Bhagirathi Coal Co.	30
	Singh, Naba Rong	109
Bowlah	Ondal Coal Co., Ld.	93
Bunoeha	Marwari, Jagannath	73
Charanpur	Apcar & Co.	2
	Reliance Coal Co., Ld.	100
Chattapathar	Bamundiha Coal Concern	6
Chelode	Chelode Coal Co.	39

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*		
Chinchuria	New Beerbhum Coal Co., Ld.	25
Chora	Ondal Coal Co., Ld.	94
Damra (New)	Phularitand Coal Co., Ld.	97
Damra (Old)	Damra Coal Co., Ld.	41
Damudapur	Bengal Coal Co., Ld.	28
Dhadka	Dhadka Coal Co.	45
Dobalia	Bankura Coal Co. (H. H. Banerji and R. C. Mukherji)	12
Dobrana	Marwari, Jagannath	74
	Sircar, Banwari Lal	111
Faridpur	Faridpur Coal Co. (S. B. Mukherji)	51
	Poniati Coal Concern (U. C. Roy and A. C. Ghosh)	98
Ghusik	Baliram Coal Co.	4
	Ghusik and Muslia Collieries, Ld.	53
	Ghusik Coal Co. (H. C. Ghosh)	55
	Mukherji, Romesh Chandra	85
Ghusik (New)	Mukherji, Baman Dass	83
Ghusik (West)	Banerji, Harihar	9
Haripur	Baraboni Coal Concern, Ld.	15
	Bhattacharji, Shosi Bhusan	31
	Laik, Mukundo Lall	67
	Tareni Coal Co. (S. C. Bhatta)	113
Jairamdanga	New Beerbhum Coal Co., Ld.	26
Jamehari	Malia, D. and R.	69
Jamgram	Barakar Coal Co., Ld.	20
Jamunakanali	Banerji, Kashi Bilash	10
Jamuria	Equitable Coal Co., Ld.	49
Joba or Jotemotuk	Eastern Coal Co., Ld.	48
Jotejanaki	Banerji Collieries (Indra Nath Banerji)	7
	Chatterji, Pran Kishen	38
	Singaran Coal Syndicate, Ld.	107
Jotemotuk or Joba	Eastern Coal Co., Ld.	48
Jubilee	Meyer Coal Co.	76
Kajra	Dutt, Hem Chandra	40
Kalikapur	Banerji, Raghu Nath and others	11
Kalipahari	Singh and Co., K. D.	108
Kanchka	Damra Coal Co., Ld.	42
Kantapahari	Barakar Coal Co., Ld.	21
Kenda	Banerji Collieries (Indra Nath Banerji)	8
	Central Kenda Coal Co. (J. A. Miller)	62
	Marwari, Fulchand	71
	Mukherji, Hera Lal	84
	New Kenda Coal Co., Ld.	63

APPENDIX V—*contd.*

Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*contd.*		
Kendra	Samla and Kendra Syndicate	103
Kessabganj	G. M. Agreeable Coal Co.	56
	Marwari, Ganapat Ram	72
	Marwari, Ram Bilas	75
Kuordih	Kuordih Coal Co., Ld.	65
Kuordih (East)	East Kuordih Coal Co., Ld.	66
Lakshmiganj	Daw, Peary Lal	44
Madhubpur	Imperial Coal Co., Ld.	58
Mosila	Bagchi, Purna Chandra	3
	Burdwan Coal Co.	35
	Cooverji Bhoja	40
	New Burdwan Coal Co.	36
Mosila or Srikistopur	Baliram Coal Co.	5
Mouzra	Basanti Oakdene Coal Co.	23
Mundulpur	Mundulpur Coal Co., Ld.	87
Muslia	Ghusik and Muslia Collieries, Ld.	54
Nandi	Adjai Coal Co., Ld.	1
	Minto Coal Co., Ld.	80
	Nandi Coal Association	88
Nandi (New)	Mukherji, Shoshi Bhusan	83
Napara	British India Coal Co., Ld.	34
	Damra Coal Co., Ld.	43
	Nandi, Maharaja Manindra Chandra	89
Napara (South)	West Baraboni Coal Co.	19
Nichinta	Meyer Coal Co.	77
Niga Valley	Niga Valley Coal Co.	91
Nimcha	Baraboni Coal Concern, Ld.	16
	Meyer Coal Co.	79
Nodia	Nodia Coal Co. (A. K. Rai Chowdhuri)	92
Nuniapool	Meyer Coal Co.	78
Palasthal	Sadhu, Ram Chandra	101
Pottery	Burn & Co.	37
Pretoria	Sibpur Coal Co., Ld.	106
Puranlip	Old Toposi Coal Co.	114
Raghunathchak	Jagannath Coal Co. (J. Marwari)	53
Raniganj	Bengal Coal Co., Ld.	29
Samla	Samla and Kendra Syndicate	104
Sarthakpur	Sudamdih Coal Co., Ld.	112
Satpukuria	Equitable Coal Co., Ld.	50
Searsol	Malia, D. and R.	70
Shekpur	Minto Coal Co., Ld.	81
Sibpur	Katras-Jharia Coal Co., Ld.	60
	Minto Coal Co., Ld.	82

APPENDIX V—*contd.*

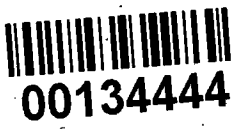
Name of Mine.	Name of Owner or Company.	Serial No. in list.
Bengal—Raniganj Coalfield (No. 3 Inspection Circle)—*concld.*		
Jonachora	Sahana & Co.	102
Krikistopur or Mosila	Baliram Coal Co.	5
Sultanpur	Kaviraj, Ram Lall	61
Sunpur	Ondal Coal Co., Ld.	95
Toposi	Raniganj Coal Association, Ld.	99
Vanora Khas	Nandi, Maharaja Manindra Chandra	90
Bengal—Giridi Coalfield (No. 2 Inspection Circle.		
Bayra or Lakharia	Bayra Coal Association	1
Budheadih	Budheadih Coal Co. (Sundermull)	5
Kabribad	Tah& Co., Rakhal Das	8
Kuldiha	Bengal Coal Co., Ld.	4
Kurhurbari	East Indian Railway Co.	6
Lakharia or Bayra	Bayra Coal Association	1
Mohalichua	Bayra Coal Association	2
Serampur	East Indian Railway Co.	7
Sikdardih	Bayra Coal Association	3
Bengal—Rajmahal Coalfield (No. 3 Inspection Circle).		
Bargo	De, Soshi Bhusan	5
Domanpur	De, Girish Chandra	1
Domanpur Balki	De, Ramani Kanto	3
Ghatchora	De, Ramani Kanto	4
Sarsabad	De, Girish Chandra	2
Bengal—Daltonganj Coalfield (No. 1 Inspection Circle).		
Rajhara	Bengal Coal Co., Ld.	1
Singra	Radford, W. T.	2
Central Provinces (No. 3 Inspection Circle).		
Ballarpur	Government of India	2
Barkui	Pench Valley Coal Co., Ld.	4
Buteria	Pench Valley Coal Co., Ld.	5
Chandametta	Pench Valley Coal Co., Ld.	6
Mattachhapper	Cooverji Bhoja	1
Tohpani	Great Indian Peninsula Railway	3
British Baluchistan (No. 2 Inspection Circle).		
Khor	Khan, Bahawal	7
Lavispur	Asgharali & Co., Abdulla	2
Margari	Ferozshah, Shiawakshaw	4
Margari	Khan, Bahawal	8
Margari	Sorabji & Co.	12
Quetta	North-Western Railway	9

APPENDIX V—*concld.*

Name of Mine.	Name of Owner or Company.	Serial No.
British Baluchistan (No. 2 Inspection Circle)—*concld.*		
Leze	Sorabji & Co.	13
Mach	Patel, K. B. B. D.	10
Sor Range	Alibhoy Brothers	1
	Essaji & Sons	3
	Ferozshah, Shiawakshaw	5
	Hossein Ali & Co.	6
	Patel, K. B. B. D.	11
	Sorabji & Co.	14
Burma (No. 1 Inspection Circle).		
Thitchauk	Burma Mines Development and Agency, Ld.	1
Eastern Bengal and Assam (No. 1 Inspection Circle).		
Ledo Valley (East)	Assam Railways and Trading Co., Ld.	1
Ledo Valley (Upper)		3
Ledo Valley (West)		2
Maolong	Maolong Coal Co.	7
Namdang	Assam Railways and Trading Co., Ld.	5
Tikak		6
Tirap		4
Punjab (No. 2 Inspection Circle).		
Chatterwal	Nath, Bhola	10
Chhaja	Chand, Lakhmi	1
Chiti Dand	Panjab Coal Co.	13
Chota Tajuwala	Ram & Sons, R. S. Rocha	14
Dandot	North-Western Railway Co.	12
Dher	Dass, Ganesh	6
Gamrala	Dass, Thakur	8
Katha	Dass, Bhagwan and Ram	2
Kotianwali	Lal & Co., Kushan	9
Makarwal	Singh & Co., R. B. Anup	16
Narianwala	Ram & Sons, R. S. Rocha	15
Rodianwali	Dass, Ishan	7
Samewala	Dass, Bhagwan and Ram	3
Tajuwala		4
Thakkar Kot		5
Wahgroowali	Nath, Bhola	11

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